

# Service Manual



## Colour Television

### TX-28MD4P

### TX-25MD4P

### TX-21MD4P

## EURO4 Chassis

### SPECIFICATIONS

(Information in brackets { } refers to model TX-25MD4P)

(Information in brackets [ ] refers to model TX-21MD4P)

**Power Source:** 220-240V AC, 50Hz

**Power Consumption:** 130W [115W]

**Aerial Impedance:** 75Ω unbalanced, Coaxial Type

**Stand-by Power Consumption:** 1,8W

**Receiving System:** PAL B/G, H, D/K, PAL-525/60  
SECAM B/G, D/K  
M.NTSC  
NTSC (AV only)

**Receiving Channels:**  
VHF E2-E12 VHF H1-H2 (ITALY)  
VHF A-H (ITALY) VHF R1-R2  
VHF R3-R5 VHF R6-R12  
UHF E21-E69 CATV (S01-S05)  
CATV S1-S10 (M1-M10) CATV S11-S20 (U1-U10)  
CATV S21-S41 (HYPERBAND)

**Intermediate Frequency:**  
**Video/Audio**  
Video 38,9MHz  
Audio 33,4MHz, 33,16MHz  
32,4MHz, 33,05MHz, 32,66MHz  
34,47MHz (PAL)  
34,5MHz, 34,65MHz (SECAM)  
Colour

**Terminals:**  
AUDIO MONITOR OUT Audio (RCAX2) 500mV rms 1kΩ  
AV1 IN Video (21 pin) 1V p-p 75Ω  
Audio (21 pin) 500mV rms 10kΩ  
RGB (21 pin)

AV1 OUT Video (21 pin) 1V p-p 75Ω  
Audio (21 pin) 500mV rms 1kΩ

AV2 IN Video (21 pin) 1V p-p 75Ω  
Audio (21 pin) 500mV rms 10kΩ  
S-Video IN Y: 1V p-p 75Ω  
(21-pin) C:0.3V p-p 75Ω

AV2 OUT Video (21 pin) 1Vp-p 75Ω  
Audio (21 pin) 500mV rms 1kΩ

AV3 IN Selectable output (21 pin)  
Audio (RCAX2) 500mV rms 10kΩ  
Video (RCAX1) 1V p-p 75Ω

**High Voltage:** 28,5kV ±1kV {28,2kV ±1kV}  
[28kV ±1kV]

**Picture Tube:** A66ECF50X41 66cm  
{A59ECF50X41 59cm}  
[A51ECQ51X01 51cm]

**Audio Output:** 2 x 15W (Music Power)  
8Ω Impedance

**Headphones:** 8Ω Impedance  
3,5 mm

**Accessories supplied :** Remote Control  
2 x R6 (UM3) Batteries

**Dimensions:**  
Height: 580 mm {531 mm} [478 mm]  
Width: 666 mm {601 mm} [525 mm]  
Depth: 472 mm {439 mm} [480 mm]

**Net weight:** 31kg {25kg} [22kg]

Specifications are subject to change without notice.  
Weights and dimensions shown are approximate.

**NOTE:** This Service Manual should be used in conjunction with the EURO4 Technical guide.

# Panasonic

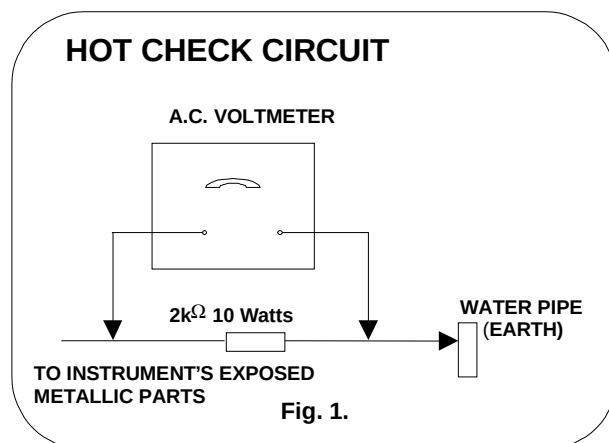
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## SAFETY PRECAUTIONS

### GENERAL GUIDE LINES

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
  2. When servicing, observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all parts that have been overheated or damaged by the short circuit.
  3. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.
  4. When the receiver is not being used for a long period of time, unplug the power cord from the AC outlet.
  5. Potentials as high as 29,5kV {29,2kV} [29kV] are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the tube.
  6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.
6. The potential at any point should not exceed 1,4 Vrms. In case a measurement is outside the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.



### LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs of the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

### LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 2kΩ 10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an AC voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed metallic part and check the voltage at each point.
5. Reverse the AC plug at the outlet and repeat each of the above measurements.

### X-RADIATION WARNING

1. The potential sources of X-Radiation in TV sets are the high voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that the jig is capable of handling 29,5kV without causing X-Radiation.

**NOTE:** It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate.

|           |               |
|-----------|---------------|
| TX-28MD4P | 28,5kV ± 1kV. |
| TX-25MD4P | 28,2kV ± 1kV. |
| TX-21MD4P | 28kV ± 1kV.   |

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
3. To prevent any X-Radiation possibility, it is essential to use the specified tube.

## SERVICE HINTS

### How to remove the rear cover

1. Remove the 9 screws as shown in **Fig.2.**



SCREWS  
Fig.2.

## LOCATION OF CONTROLS

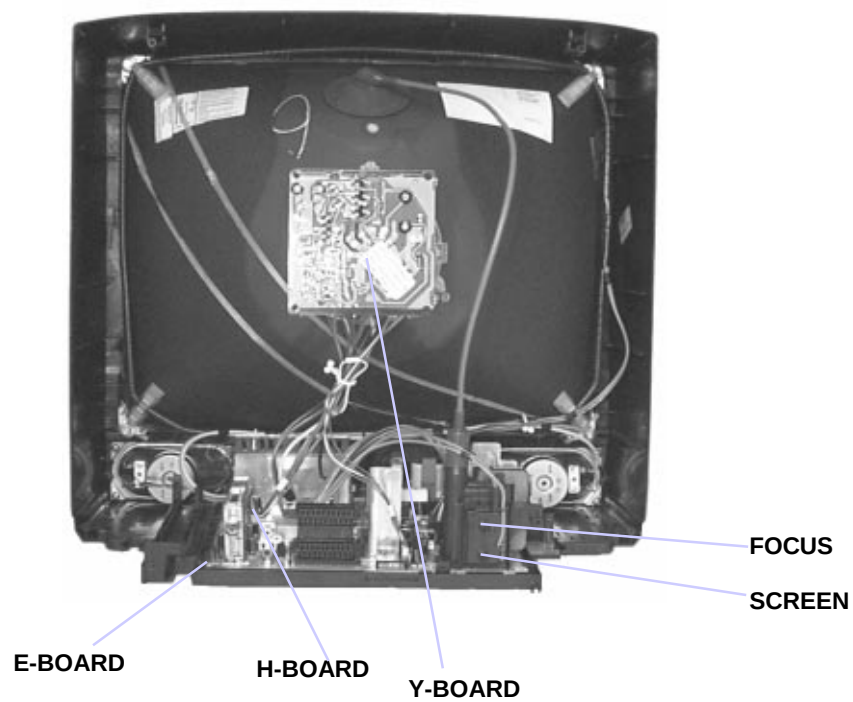


Fig.3.

## ADJUSTMENT PROCEDURE

The remote control is used for entering and storing adjustments, with the exception of Cut-off adjustments, which must always be done prior to service adjustment. Perform adjustments in accordance with screen display. The display on the screen also specifies the software version as well as the approx. setting values. The adjustment sequence for the service mode is indicated below.

1. Set the Bass to maximum position, set the Treble to minimum position, press the F button followed by the volume down button on the customer controls at the front of the TV and at the same time press the **"INDEX"** button on the remote control, this will place the TV into the Service Mode.
2. Press the **RED / GREEN** buttons to step up / down through the functions.
3. Press the **YELLOW / BLUE** buttons to alter the function values.
4. Press the **STR** button after each adjustment has been made to store the required values.
5. To exit the Service Mode, press the **"N"** button.

**NOTE:** This TV also has the option of using a Memory Pack which enables you to copy the preset TV channels into the Memory Pack and then download them onto this or any other EURO-4 TV set.

### TV to Memory Pack process

1. Plug the memory pack into the AV1 21 pin terminal at the back of the TV and switch the TV on.
2. Go into Service Mode as explained above. The screen will show :-

Program  
External>>TV

3. Press the **BLUE** button on the remote control. The screen will show :-

Program  
TV>>External

4. Press the **STR** button on the TV. The screen will show :-

Please Wait

5. All the tuning information stored inside the TV will now be transferred to the Memory Pack. This process will take 2-3 minutes to complete and when finished the screen will show :-

Complete

### Memory Pack to TV process

1. Plug the memory pack into the AV1 21 pin terminal at the back of the TV and switch the TV on.
2. Go into Service Mode as explained above. The screen will show :-

Program  
External>>TV

3. Press the **STR** button on the TV. The screen will show :-

Please Wait

4. All the tuning information stored inside the Memory Pack will now be transferred to the TV. This process will take 2-3 minutes to complete and when finished the screen will show :-

Complete

5. The tuning information from the Memory Pack has now been copied into the TV.
6. To exit from the Service Mode press the **"N"** button.
7. The process has now been completed and the Memory Pack can now be removed.

## ERRORS

If an error occurs while using the Memory Pack the TV will detect this and the screen will show :-

Error !!

If this happens then press the **"N"** button and repeat the process that was being used. If the errors continue to occur then check the connectors between the TV and the memory pack and check the 9V battery inside the memory pack.

## ADJUSTMENT PROCEDURE

| Item / Preparation                                                                                                                                              | Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |            |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|-----------|-----------|-----------|------------|-----------|-----------|---------|-----------|----------|------------|---------|-----------|------------|-----------|---------|------------|---------|-----------|-----------|------------|----------|
| <b>+B SET-UP</b><br>1. Receive a Greyscale signal.<br>2. Set the controls :-<br><br>Brightness Minimum<br><br>Contrast Minimum<br><br>Volume Minimum            | 1. Set the +B voltage up as follows:-<br>Adjust <b>R811</b> so that <b>B2</b> shows 148V±1V [130V±1V TX-21MD4P]<br>2. Confirm the following voltages.<br><table><tr><td><b>B9</b></td><td>5 ± 0,25V</td><td><b>B10</b></td><td>5 ± 0,25V</td></tr><tr><td><b>B5</b></td><td>12 ± 0,5V</td><td><b>B11</b></td><td>33 ± 1,5V</td></tr><tr><td><b>B4</b></td><td>16 ± 1V</td><td><b>B7</b></td><td>8 ± 0,5V</td></tr><tr><td><b>B12</b></td><td>26 ± 1V</td><td><b>B8</b></td><td>5,5 ± 0,5V</td></tr><tr><td><b>B3</b></td><td>35 ± 1V</td><td><b>B13</b></td><td>15 ± 1V</td></tr><tr><td><b>B1</b></td><td>200 ± 10V</td><td><b>B14</b></td><td>-15 ± 1V</td></tr></table> | <b>B9</b>  | 5 ± 0,25V  | <b>B10</b> | 5 ± 0,25V | <b>B5</b> | 12 ± 0,5V | <b>B11</b> | 33 ± 1,5V | <b>B4</b> | 16 ± 1V | <b>B7</b> | 8 ± 0,5V | <b>B12</b> | 26 ± 1V | <b>B8</b> | 5,5 ± 0,5V | <b>B3</b> | 35 ± 1V | <b>B13</b> | 15 ± 1V | <b>B1</b> | 200 ± 10V | <b>B14</b> | -15 ± 1V |
| <b>B9</b>                                                                                                                                                       | 5 ± 0,25V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>B10</b> | 5 ± 0,25V  |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
| <b>B5</b>                                                                                                                                                       | 12 ± 0,5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>B11</b> | 33 ± 1,5V  |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
| <b>B4</b>                                                                                                                                                       | 16 ± 1V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>B7</b>  | 8 ± 0,5V   |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
| <b>B12</b>                                                                                                                                                      | 26 ± 1V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>B8</b>  | 5,5 ± 0,5V |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
| <b>B3</b>                                                                                                                                                       | 35 ± 1V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>B13</b> | 15 ± 1V    |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
| <b>B1</b>                                                                                                                                                       | 200 ± 10V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>B14</b> | -15 ± 1V   |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |
| <b>CUT OFF / Ug2 Test</b><br>1. Receive a Greyscale signal.<br>2. Degauss the tube externally.<br>3. Set the TV into Service Mode 1.<br>4. Select Cut off mode. | To adjust Cutoff connect an oscilloscope to the Blue cathode, adjust "cutoff" value using the " <b>Yellow</b> " and " <b>Blue</b> " buttons until the black level is 160V±5V press " <b>STR</b> " to store the value. Remove the oscilloscope.<br>Select Ug2 adjustment and adjust the screen VR until the display shows "O.K."                                                                                                                                                                                                                                                                                                                                            |            |            |            |           |           |           |            |           |           |         |           |          |            |         |           |            |           |         |            |         |           |           |            |          |

## SELF CHECK

Self-check is used to automatically check the bus lines and hexadecimal code of the TV set. To get into the Self-Check mode press the down **(-V)** button on the customer controls at the front of the set, at the same time pressing the **STATUS** button on the remote control, and the screen will show :-

|             |      |     |                  |
|-------------|------|-----|------------------|
| VDP         | O.K. | PCB | O.K.             |
| TUN         | O.K. | Cab | O.K.             |
| E2          | O.K. | Sum | Factory use only |
| MSP         | O.K. |     |                  |
| DPL         | - -  |     |                  |
| OPTION 1 3D | [3D] |     |                  |
| OPTION 2 0C | [0E] |     |                  |
| OPTION 3 1F | [1F] |     |                  |
| OPTION 4 00 | [00] |     |                  |
| OPTION 5 EF | [EF] |     |                  |
| OPTION 6 21 | [21] |     |                  |

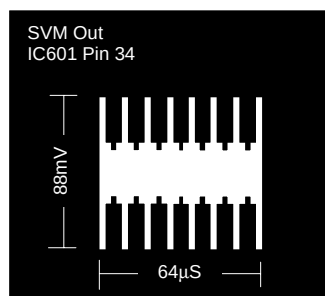
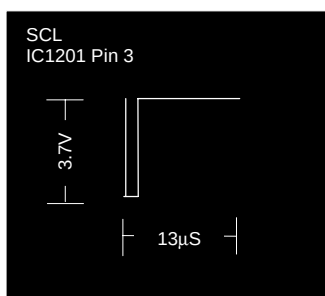
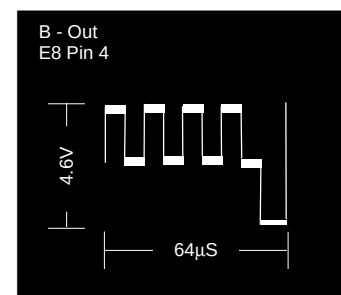
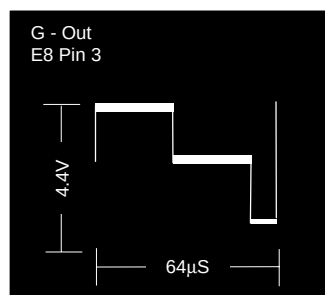
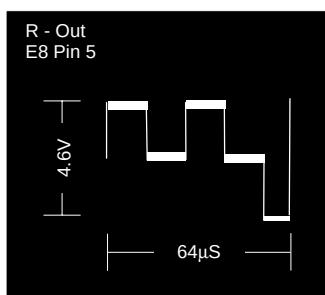
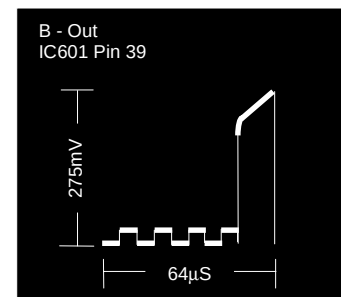
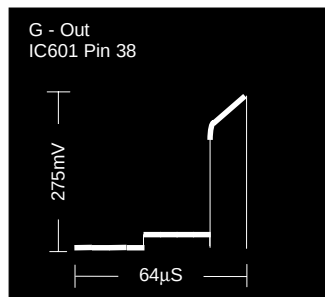
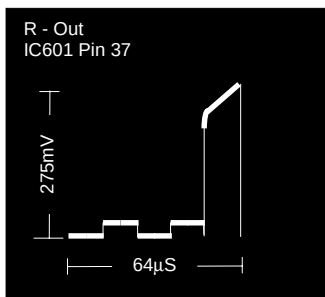
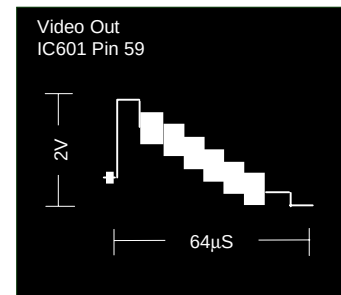
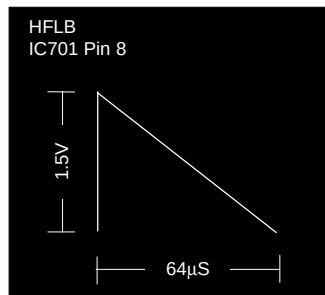
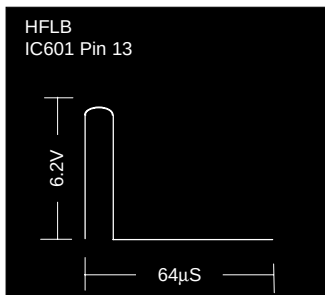
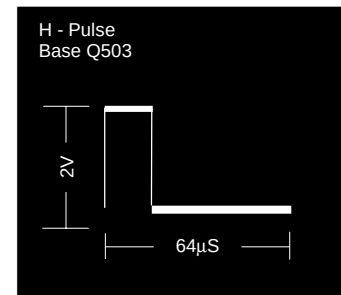
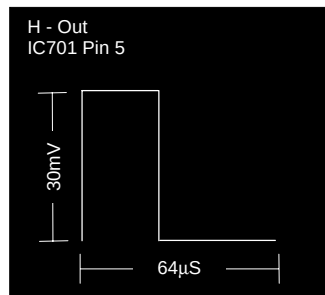
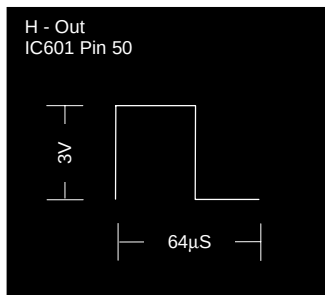
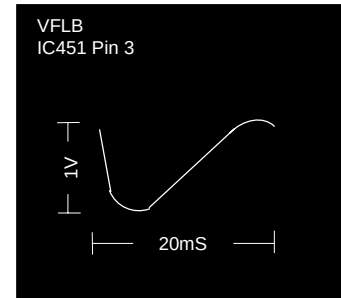
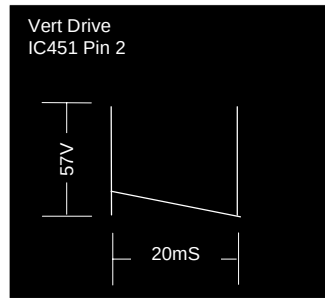
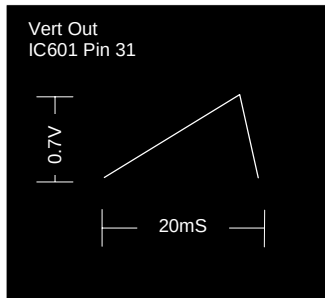
If the CCU ports have been checked and found to be incorrect or not located then " - - " will appear in place of "O.K.".

### Service Aids

To aid in the service of our current chassis there are a number of Service Aids which have been made available.

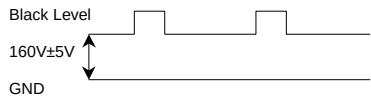
- LUCI** interface kit (Linked Utility Computer Interface)  
 Part number: TZS6EZ002  
 This contains interface and cables for connecting TV service connector and a PC as well as diagnostic software. As new models are introduced upgrade software will become available.
- VICI** (Visual Interactive Computer Information)  
 These C.D.'s contain multimedia documentation providing quick access to service information.  
 Part No. TZS7EZ006 & TZS7EZ005
  - Service Manuals
  - Instruction Books
  - Technical Information
- TASMIN** (Technically Advanced System for Multimedia Interactive Notes)  
 As well as providing a first step towards more interactive training this product also achieves quick access to Technical Information.

## WAVEFORM PATTERN TABLE

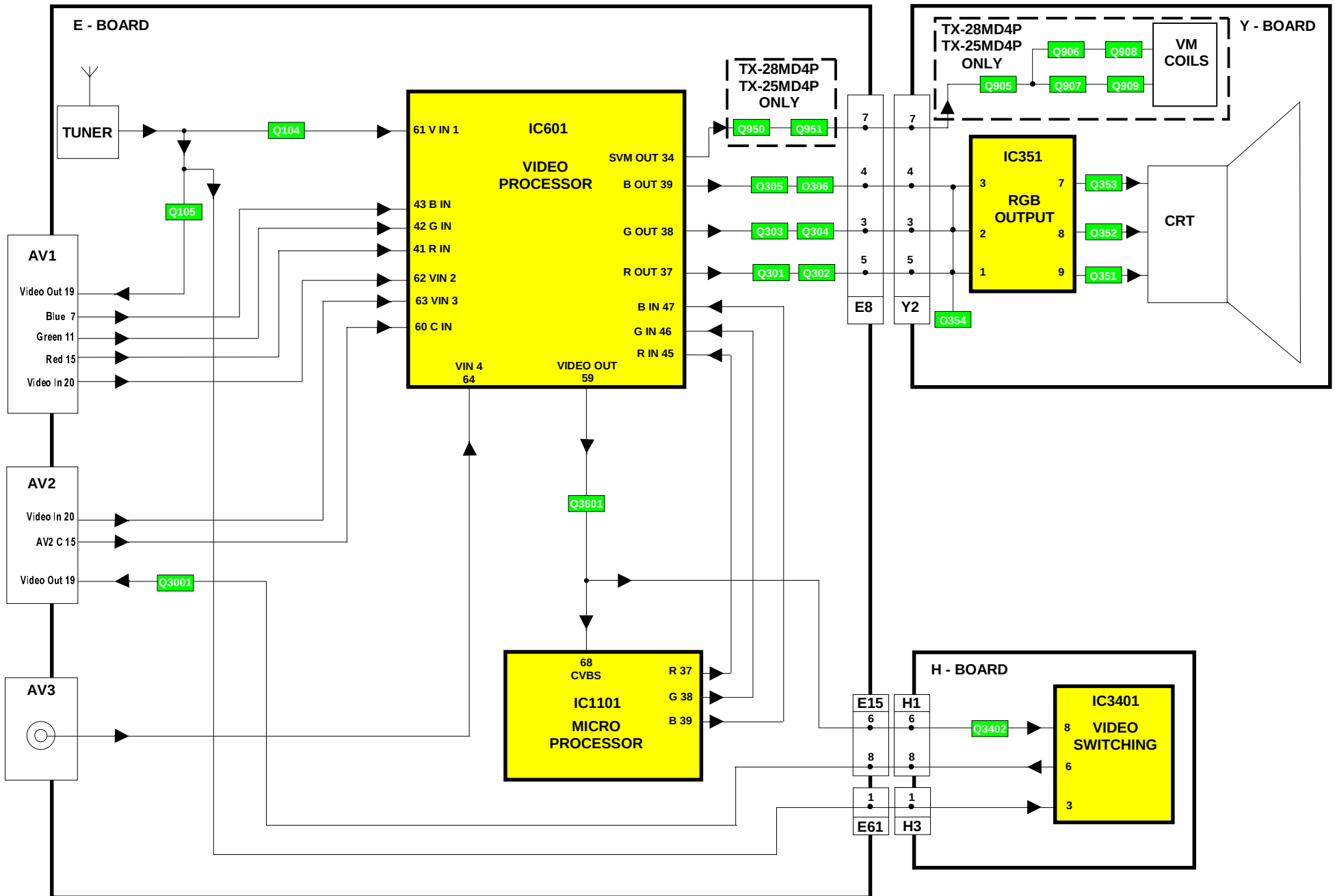


## ALIGNMENT SETTINGS

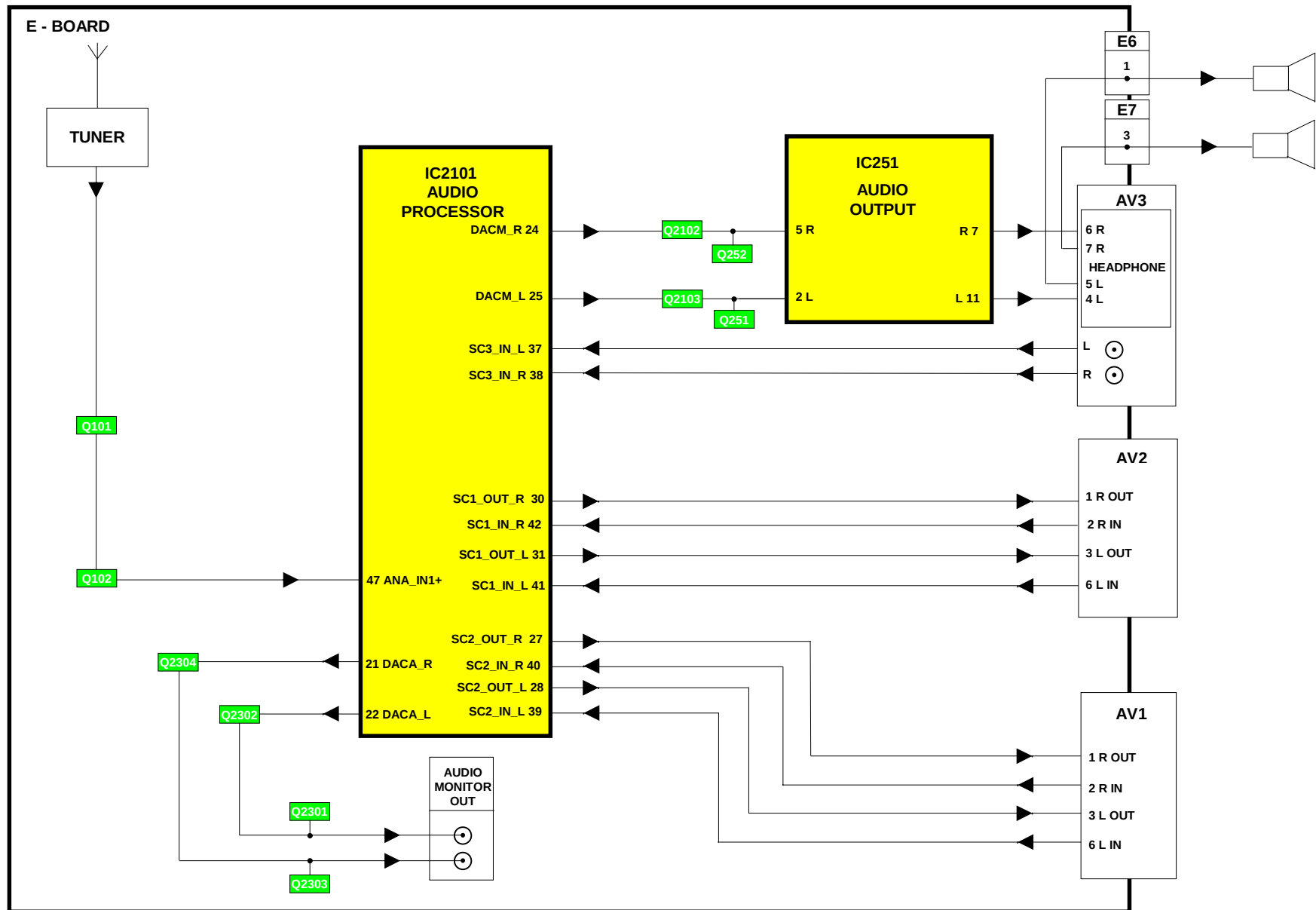
(The figures below are nominal and used for representative purposes only.)

| Alignment Function    |                                                             | Settings / Special features                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Horizontal Position   | H-Pos<br>061                                                | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Vertical Position     | V-Pos<br>005                                                | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Horizontal Amplitude  | H-Amp<br>055                                                | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Vert. Amplitude       | V-Amp<br>054                                                | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EW-amplitude          | EW-Amp1<br>-128                                             | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EW-amplitude          | EW-Amp2<br>006                                              | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Trapezium-comp        | Trapez-1<br>047                                             | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Trapezium-comp        | Trapez-2<br>-128                                            | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Vertical Linearity    | V-Lin<br>006                                                | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Vertical Symmetry     | V-Sym<br>002                                                | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DVCO                  | DVCO<br>-005                                                | Receive a PAL Colour Bar Pattern. For DVCO alignment press " <b>Blue</b> " button, wait until the colours are changing slowly and press " <b>STR</b> ".                                                                                                                                                                                                                                                                              |
| Cut-off DC            | Cut-off<br>0171                                             | <p>To adjust Cutoff connect an oscilloscope to the blue cathode, adjust "cutoff" value using the "<b>Yellow</b>" and "<b>Blue</b>" buttons until the black level is <math>160V \pm 5V</math> press "<b>STR</b>" to store the value. Remove the oscilloscope. Select Ug2 adjustment and adjust the screen VR until the display shows "O.K."</p>  |
| Ug2 Test              | Ug2<br>055<br>O.K.                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Highlight<br>Lowlight | High<br>Low    0902    0777    0864<br>0117    0132    0112 | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Sub-Brightness        | Sub-Brightness<br>255                                       | Optimum setting.                                                                                                                                                                                                                                                                                                                                                                                                                     |

# VIDEO BLOCK DIAGRAM

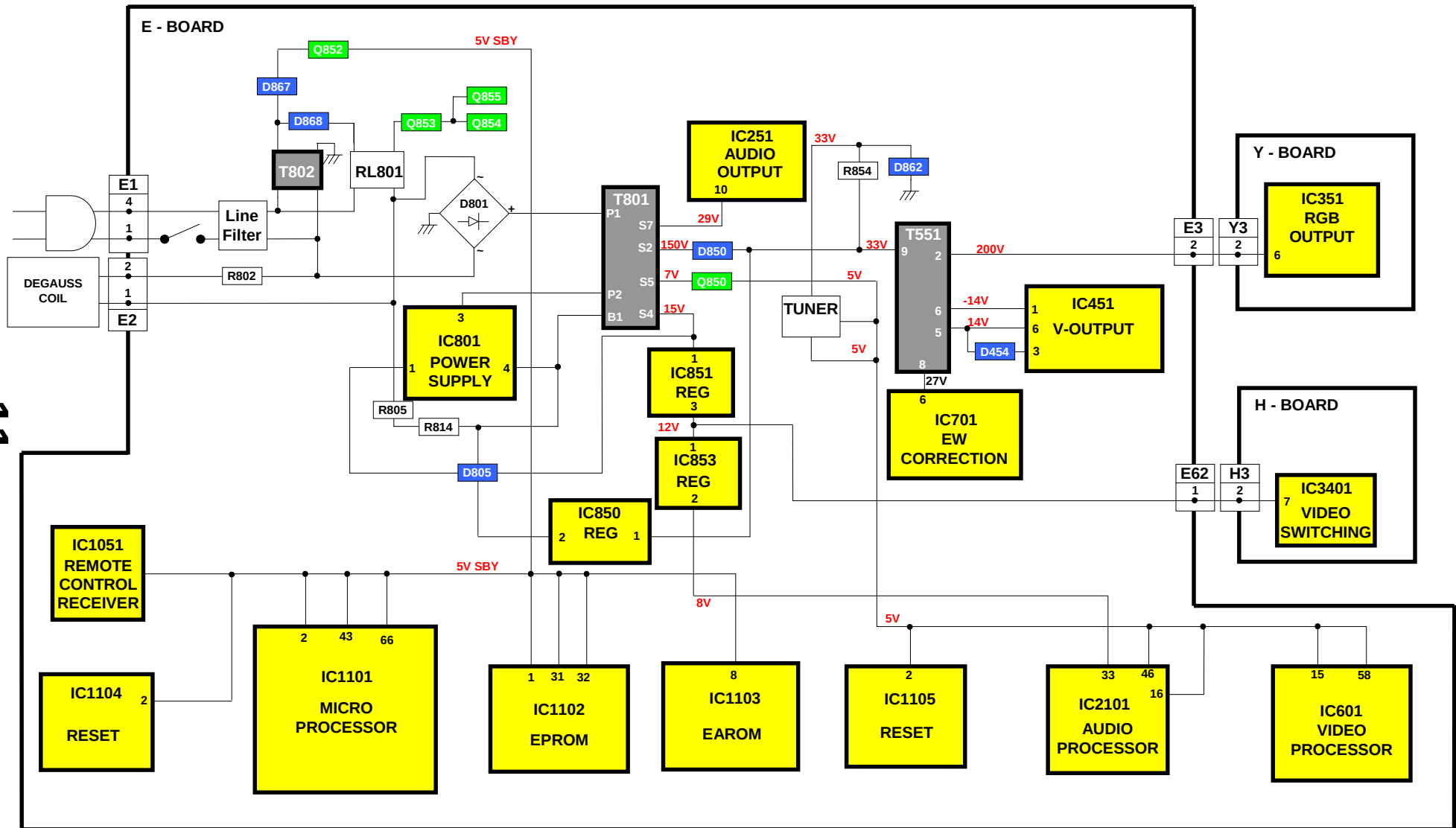


# AUDIO BLOCK DIAGRAM





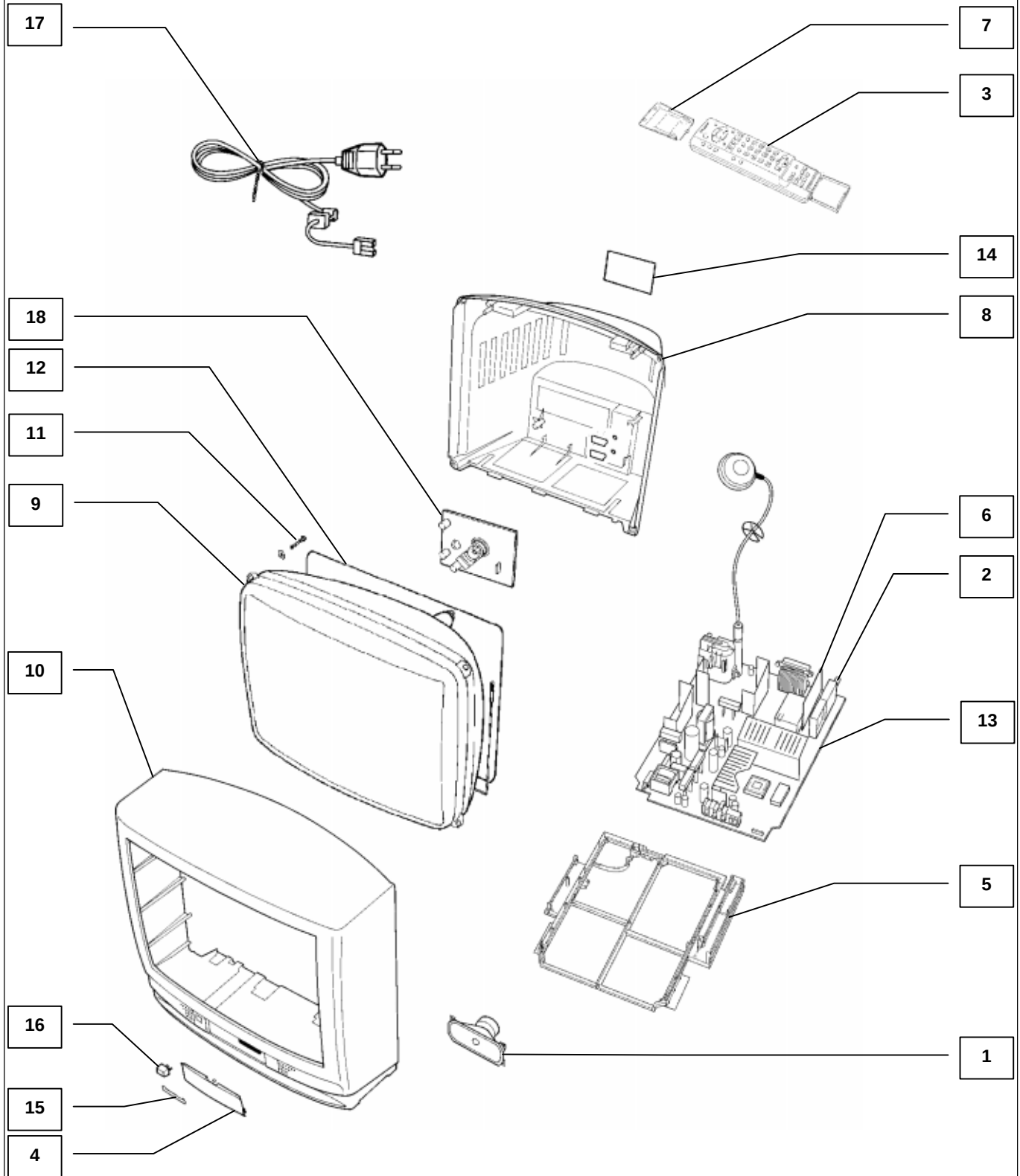
## 11



## PARTS LOCATION

**NOTE:**

The numbers on the exploded view below refer to the mechanical section of the Replacement Parts List.



# REPLACEMENT PARTS LIST

## Important Safety Notice

Components Identified by  mark have special characteristics important for safety.  
\* When replacing any of these components, use only manufacturers specified parts.  
In case of ordering these spare parts, please always add the complete Model-Type number to your order.

| Cct Ref                         | Parts Number | Description            |
|---------------------------------|--------------|------------------------|
| <b>COMMON PARTS</b>             |              |                        |
| <b>MECHANICAL PARTS</b>         |              |                        |
| 1                               | EASG12D531P2 | SPEAKER                |
| 2                               | ENG27507G    | TUNER                  |
| 3                               | EUR511200    | REMOTE CONTROL         |
| 4                               | TKP8E1177    | DOOR LID               |
| 5                               | TMX8E023     | CHASSIS FRAME          |
| 6                               | TNP8EH002AA  | H P.C.B.               |
| 7                               | UR51EC904A   | BATTERY COVER (REMOTE) |
| <b>MISCELLANEOUS COMPONENTS</b> |              |                        |
|                                 | 31221212478  | FIX CLIP               |
|                                 | 832AG11D-ESL | I.C. SOCKET            |
|                                 | F9-4-220     | RELAY                  |
|                                 | PCS-084A-1   | 84 PIN SOCKET          |
|                                 | TBM8E1879    | PRESET LABEL           |
|                                 | TEK6935      | LID SWITCH             |
|                                 | TKP8E1178    | LED PANEL              |
|                                 | TKP8E1179    | LED TUBE               |
|                                 | TMW8E020-1   | LED HOLDER             |
|                                 | UM-3DJ-2P    | BATTERY PACK           |
| RL801                           | TSE1885-1    | RELAY                  |
| R802                            | 232266296706 | THERMISTOR             |
| S351                            | 0330550049   | CRT SOCKET             |
| <b>INSTRUCTION BOOKS</b>        |              |                        |
|                                 | TQB8E2585MN  | BULG./ROMAN.           |
|                                 | TQB8E2585PQ  | POLISH/HUNG.           |
|                                 | TQB8E2585RU  | CZECH/ENGLISH          |
| <b>I.C.s</b>                    |              |                        |
| IC251                           | LA4282       | AUDIO OUTPUT           |
| IC351                           | TDA6103Q-N3  | R.G.B. AMPLIFIER       |
| IC451                           | LA7845N      | VERTICAL OUTPUT        |
| IC601                           | VDP3108BPPB1 | VIDEO PROCESSOR        |
| IC701                           | TEA2031A     | HORIZONTAL OUTPUT      |
| IC801                           | STRF6654LF51 | POWER SUPPLY           |
| IC851                           | L78M12MRB    | 12V REGULATOR          |
| IC853                           | AN78L08TA    | 8V REGULATOR           |
| IC1051                          | RPM-637CBRL  | LED RECEIVER           |
| IC1101                          | SDA5450C47   | MICRO PROCESSOR        |
| IC1102                          | 27C2001-G01  | EPROM *                |
| IC1104                          | MN1381-R(TA) | DIODE                  |
| IC1105                          | MN1381-T(TA) | DIODE                  |
| IC2101                          | MSP3410DPOB4 | AUDIO PROCESSOR        |
| IC3401                          | TEA2114      | AV SWITCHING           |
| <b>FUSES</b>                    |              |                        |
| F802                            | 19181-3.15   | FUSE                   |

| Cct Ref       | Parts Number | Description   |
|---------------|--------------|---------------|
| F8021         | EYF52BC      | FUSE HOLDER   |
| F8022         | EYF52BC      | FUSE HOLDER   |
| <b>DIODES</b> |              |               |
| D251          | MA2180TP     | DIODE         |
| D253          | MA700TA5     | DIODE         |
| D254          | MA700TA5     | DIODE         |
| D354          | 1SR124-4AT82 | DIODE         |
| D355          | 1SR124-4AT82 | DIODE         |
| D356          | 1SR124-4AT82 | DIODE         |
| D357          | MA165TA5     | DIODE         |
| D358          | MA165TA5     | DIODE         |
| D359          | MA165TA5     | DIODE         |
| D360          | MTZJT-7715A  | DIODE         |
| D361          | MA165TA5     | DIODE         |
| D362          | MA165TA5     | DIODE         |
| D363          | MA165TA5     | DIODE         |
| D364          | MA165TA5     | DIODE         |
| D453          | MA165TA5     | DIODE         |
| D454          | ERA15-02V3   | DIODE         |
| D456          | MTZJT-775.6C | DIODE         |
| D457          | MA165TA5     | DIODE         |
| D501          | MA165TA5     | DIODE         |
| D502          | 1SR124-4AT82 | DIODE         |
| D511          | MA4047       | DIODE         |
| D551          | ERD07-15L7   | DIODE         |
| D552          | RU3LFA1      | DIODE         |
| D553          | 1SR124-4AT82 | DIODE         |
| D554          | 1SR124-4AT82 | DIODE         |
| D556          | MA165TA5     | DIODE         |
| D557          | 1SR124-4AT82 | DIODE         |
| D558          | 1SR124-4AT82 | DIODE         |
| D601          | DAN217T146   | DIODE         |
| D603          | DAN217T146   | DIODE         |
| D605          | DAN212KT146  | DIODE         |
| D606          | MA165TA5     | DIODE         |
| D607          | MA4051       | DIODE         |
| D609          | 1SR124-4AT82 | DIODE         |
| D615          | STZ6.2NT146  | DIODE         |
| D616          | STZ6.2NT146  | DIODE         |
| D701          | MA165TA5     | DIODE         |
| D702          | MTZJT-775.1C | DIODE         |
| D704          | MA29TA5      | DIODE         |
| D705          | MTZJT-775.6C | DIODE         |
| D801          | RBV4-08      | DIODE         |
| D803          | 1SR124-4AT82 | DIODE         |
| D804          | 1SR124-4AT82 | DIODE         |
| D805          | TLP621GR-LF2 | PHOTO COUPLER |
| D806          | 1SR124-4AT82 | DIODE         |
| D850          | RU4BLF-L1    | DIODE         |
| D851          | MTZJT776.2B  | DIODE         |
| D852          | MA165TA5     | DIODE         |
| D853          | MA2180BLFS   | DIODE         |

| Cct Ref            | Parts Number | Description |
|--------------------|--------------|-------------|
| D854               | TVSRU2AMLFA5 | DIODE       |
| D855               | FML22SLF610  | DIODE       |
| D856               | RU4AMLF-M1   | DIODE       |
| D857               | MTZJT-775.1C | DIODE       |
| D858               | MA165TA5     | DIODE       |
| D859               | MA165TA5     | DIODE       |
| D861               | MA165TA5     | DIODE       |
| D862               | MTZJT-7736A  | DIODE       |
| D863               | MA165TA5     | DIODE       |
| D865               | MA165TA5     | DIODE       |
| D866               | MA165TA5     | DIODE       |
| D867               | EK06-V0      | DIODE       |
| D868               | 1N4150T-77   | DIODE       |
| D869               | 1N4150T-77   | DIODE       |
| D870               | MA165TA5     | DIODE       |
| D871               | 1N4150T-77   | DIODE       |
| D873               | MTZJT-775.6C | DIODE       |
| D874               | 1SR124-4AT82 | DIODE       |
| D875               | BZX79A75A26A | DIODE       |
| D1051              | SLR56UR3FLF  | LED         |
| D1101              | MA165TA5     | DIODE       |
| D1102              | MA165TA5     | DIODE       |
| D2101              | MA723TA5     | DIODE       |
| D2102              | MA723TA5     | DIODE       |
| D2103              | MA723TA5     | DIODE       |
| D2104              | MA723TA5     | DIODE       |
| D2105              | MTZJT-778.2C | DIODE       |
| D2303              | MA723TA5     | DIODE       |
| D2304              | MA723TA5     | DIODE       |
| D3101              | MTZJT-778.2C | DIODE       |
| D3102              | MTZJT-778.2C | DIODE       |
| <b>TRANSISTORS</b> |              |             |
| Q101               | BC847B       | TRANSISTOR  |
| Q102               | BC847B       | TRANSISTOR  |
| Q104               | BC847B       | TRANSISTOR  |
| Q105               | BC847B       | TRANSISTOR  |
| Q251               | 2SD1328STX   | TRANSISTOR  |
| Q252               | 2SD1328STX   | TRANSISTOR  |
| Q253               | BC847B       | TRANSISTOR  |
| Q254               | BC847B       | TRANSISTOR  |
| Q301               | BC847B       | TRANSISTOR  |
| Q302               | FMY4T148     | TRANSISTOR  |
| Q303               | BC847B       | TRANSISTOR  |
| Q304               | FMY4T148     | TRANSISTOR  |
| Q305               | BC847B       | TRANSISTOR  |
| Q306               | FMY4T148     | TRANSISTOR  |
| Q351               | 2SA1767      | TRANSISTOR  |
| Q352               | 2SA1767      | TRANSISTOR  |
| Q353               | 2SA1767      | TRANSISTOR  |
| Q354               | BC857B       | TRANSISTOR  |
| Q451               | BC857B       | TRANSISTOR  |
| Q503               | 2SD2398-M2   | TRANSISTOR  |
| Q551               | BU2508AXLB   | TRANSISTOR  |
| Q552               | 2SC1473-RN   | TRANSISTOR  |
| Q701               | BC857B       | TRANSISTOR  |
| Q850               | 2SD1273PLB   | TRANSISTOR  |
| Q851               | BC857B       | TRANSISTOR  |
| Q852               | 2SC1383-S    | TRANSISTOR  |
| Q853               | BC847B       | TRANSISTOR  |
| Q854               | BC847B       | TRANSISTOR  |
| Q855               | BC847B       | TRANSISTOR  |
| Q856               | BC847B       | TRANSISTOR  |
| Q857               | 2SA1018QTA   | TRANSISTOR  |
| Q950               | BC847B       | TRANSISTOR  |
| Q951               | FMY4T148     | TRANSISTOR  |
| Q1051              | BC847B       | TRANSISTOR  |

| Cct Ref             | Parts Number | Description |
|---------------------|--------------|-------------|
| Q1052               | BC847B       | TRANSISTOR  |
| Q1101               | BC847B       | TRANSISTOR  |
| Q1104               | BC847B       | TRANSISTOR  |
| Q1105               | BC847B       | TRANSISTOR  |
| Q1106               | BC847B       | TRANSISTOR  |
| Q1107               | BC847B       | TRANSISTOR  |
| Q1108               | BC847B       | TRANSISTOR  |
| Q2101               | BC857B       | TRANSISTOR  |
| Q2102               | BC857B       | TRANSISTOR  |
| Q2103               | BC857B       | TRANSISTOR  |
| Q2301               | BC847B       | TRANSISTOR  |
| Q2302               | BC857B       | TRANSISTOR  |
| Q2303               | BC847B       | TRANSISTOR  |
| Q2304               | BC857B       | TRANSISTOR  |
| Q3001               | BC847B       | TRANSISTOR  |
| Q3006               | BC847B       | TRANSISTOR  |
| Q3007               | BC847B       | TRANSISTOR  |
| Q3401               | BC847B       | TRANSISTOR  |
| Q3402               | BC847B       | TRANSISTOR  |
| Q3601               | BC847B       | TRANSISTOR  |
| <b>TRANSFORMERS</b> |              |             |
| T501                | ETH19Y173AY  | TRANSFORMER |
| T551                | ZTFL94002A   | F.B.T.      |
| T802                | ETP35KAN619U | TRANSFORMER |
| <b>COILS</b>        |              |             |
| L104                | EXCELSA35T   | COIL        |
| L106                | TLTACT100K   | COIL        |
| L107                | TLTACT6R8K   | COIL        |
| L301                | TLTACT4R7K   | COIL        |
| L302                | TLTACT4R7K   | COIL        |
| L451                | EXCELSA35T   | COIL        |
| L501                | EXCELSA35T   | COIL        |
| L553                | ELC08D682E   | COIL        |
| L601                | TLTACT4R7K   | COIL        |
| L602                | TLTACT4R7K   | COIL        |
| L603                | TLTACT4R7K   | COIL        |
| L604                | TLTACT4R7K   | COIL        |
| L606                | TLTACT4R7K   | COIL        |
| L607                | ELJFC2R2KF   | COIL        |
| L701                | ELC10D822E   | COIL        |
| L850                | EXCELSA35T   | COIL        |
| L851                | EXCELSA35T   | COIL        |
| L852                | ELEIN470KA   | COIL        |
| L853                | EXCELSA35T   | COIL        |
| L854                | EXCELSA35T   | COIL        |
| L855                | EXCELSA35T   | COIL        |
| L856                | EXCELSA39V   | COIL        |
| L1103               | TLTACT100K   | COIL        |
| L1104               | EXCELSA35T   | COIL        |
| L1105               | ELJFC2R2KF   | COIL        |
| L2101               | TLTACT100K   | COIL        |
| L2103               | EXCELSA35T   | COIL        |
| L2104               | TLTACT4R7K   | COIL        |
| L3001               | ELEMV1R5MA   | COIL        |
| L3002               | ELEMV1R5MA   | COIL        |
| L3003               | ELEMV1R5MA   | COIL        |
| L3004               | ELEMV1R5MA   | COIL        |
| L3005               | ELEBR2R2KA   | COIL        |
| L3006               | ELEBR2R2KA   | COIL        |
| L3007               | TLTACT2R2K   | COIL        |
| L3101               | ELEBT6R8KA   | COIL        |
| L3102               | ELEBT6R8KA   | COIL        |
| L3401               | ELESN2R2KA   | COIL        |
| L3402               | ELESN2R2KA   | COIL        |

| Cct Ref          | Parts Number | Description           |
|------------------|--------------|-----------------------|
| <b>FILTERS</b>   |              |                       |
| L804             | ELF18N010A   | LINE FILTER           |
| <b>CRYSTALS</b>  |              |                       |
| X601             | 4730007267   | CRYSTAL               |
| X1101            | TSSA121      | CRYSTAL               |
| <b>RESISTORS</b> |              |                       |
| C101             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA37             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA26             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA48             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA47             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA45             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA44             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSH001           | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA38             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA39             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA36             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA49             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA27             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA40             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA25             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA22             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA16             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA15             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA14             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA13             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA12             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA11             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA10             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA28             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA9              | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE5             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE4             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE35            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE33            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE3             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE26            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE22            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE18            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE12            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JSE10            | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA60             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA52             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA54             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA55             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA58             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA57             | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω  |
| JA21             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA1              | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA5              | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA51             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA46             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA8              | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA2              | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA59             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA33             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA35             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA56             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA34             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA43             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA32             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA31             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA30             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA29             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |
| JA50             | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω |

| Cct Ref | Parts Number | Description             |
|---------|--------------|-------------------------|
| JA23    | ERJ8GEY0R00  | S.M.CARB .125W 5% 0 Ω   |
| R101    | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω    |
| R102    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R103    | ERJ6GEYJ222  | S.M.CARB 0.1W 5% 2K2 Ω  |
| R104    | ERJ6GEYJ332  | S.M.CARB 0.1W 5% 3K3 Ω  |
| R105    | ERJ6GEYJ101  | S.M.CARB 0.1W 5% 100 Ω  |
| R106    | ERJ6GEYJ681  | S.M.CARB 0.1W 5% 680 Ω  |
| R107    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R111    | ERJ6GEY0R00  | S.M.CARB 0.1W 5% 0 Ω    |
| R112    | ERJ6GEYJ101  | S.M.CARB 0.1W 5% 100 Ω  |
| R113    | ERJ6GEYJ223  | S.M.CARB 0.1W 5% 22K Ω  |
| R114    | ERJ6GEYJ331  | S.M.CARB 0.1W 5% 330 Ω  |
| R115    | ERJ6GEYJ331  | S.M.CARB 0.1W 5% 330 Ω  |
| R116    | ERJ6GEYJ562  | S.M.CARB 0.1W 5% 5K6 Ω  |
| R117    | ERJ6GEYJ222  | S.M.CARB 0.1W 5% 2K2 Ω  |
| R118    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R120    | ERJ6GEYJ332  | S.M.CARB 0.1W 5% 3K3 Ω  |
| R121    | ERJ6GEYJ471  | S.M.CARB 0.1W 5% 470 Ω  |
| R251    | ERJ6GEYJ101  | S.M.CARB 0.1W 5% 100 Ω  |
| R252    | ERJ6GEYJ242  | S.M.CARB 0.1W 5% 2K4 Ω  |
| R253    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R254    | ERJ6GEYJ101  | S.M.CARB 0.1W 5% 100 Ω  |
| R255    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R256    | ERJ6GEYJ471  | S.M.CARB 0.1W 5% 470 Ω  |
| R257    | ERJ6GEYJ270  | S.M.CARB 0.1W 5% 27 Ω   |
| R258    | ERJ6GEYJ242  | S.M.CARB 0.1W 5% 2K4 Ω  |
| R259    | ERJ6GEYJ270  | S.M.CARB 0.1W 5% 27 Ω   |
| R260    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R261    | ERJ6GEYJ471  | S.M.CARB 0.1W 5% 470 Ω  |
| R262    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R263    | ERJ6GEYJ473  | S.M.CARB 0.1W 5% 47K Ω  |
| R264    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R265    | ERD25TJ2R2   | CARBON 0.25W 5% 2R2 Ω   |
| R266    | ERD25TJ2R2   | CARBON 0.25W 5% 2R2 Ω   |
| R267    | ERF7ZK4R7    | WOUND 7W 10% 4R7 Ω      |
| R268    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R269    | ERQ14AJ101   | METAL 0.25W 5% 100 Ω    |
| R271    | ERJ6GEYJ103  | S.M.CARB 0.1W 5% 10K Ω  |
| R272    | ERF7ZK4R7    | WOUND 7W 10% 4R7 Ω      |
| R301    | ERJ6GEYJ391  | S.M.CARB 0.1W 5% 390 Ω  |
| R302    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R303    | ERJ6GEYJ750  | S.M.CARB 0.1W 5% 75 Ω   |
| R304    | ERJ6GEYJ331  | S.M.CARB 0.1W 5% 330 Ω  |
| R305    | ERJ6GEYJ391  | S.M.CARB 0.1W 5% 390 Ω  |
| R306    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R307    | ERJ6GEYJ750  | S.M.CARB 0.1W 5% 75 Ω   |
| R308    | ERJ6GEYJ331  | S.M.CARB 0.1W 5% 330 Ω  |
| R309    | ERJ6GEYJ391  | S.M.CARB 0.1W 5% 390 Ω  |
| R310    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R311    | ERJ6GEYJ750  | S.M.CARB 0.1W 5% 75 Ω   |
| R312    | ERJ6GEYJ331  | S.M.CARB 0.1W 5% 330 Ω  |
| R351    | ERJ6GEYJ302  | S.M.CARB 0.1W 5% 3K Ω   |
| R352    | ERJ6GEYJ302  | S.M.CARB 0.1W 5% 3K Ω   |
| R353    | ERJ6GEYJ302  | S.M.CARB 0.1W 5% 3K Ω   |
| R354    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R355    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R356    | ERJ6GEYJ102  | S.M.CARB 0.1W 5% 1K Ω   |
| R366    | ERDS1TJ152   | CARBON 0.5W 5% 1K5 Ω    |
| R367    | ERDS1TJ152   | CARBON 0.5W 5% 1K5 Ω    |
| R368    | ERDS1TJ152   | CARBON 0.5W 5% 1K5 Ω    |
| R372    | ERQ12AJ121   | FUSIBLE 0.5W 5% 120 Ω   |
| R373    | ERJ6GEYJ220  | S.M.CARB 0.1W 5% 22 Ω   |
| R374    | ERD25TJ274   | CARBON 0.25W 5% 270K Ω  |
| R375    | ERJ6GEYJ684  | S.M.CARB 0.1W 5% 680K Ω |
| R376    | ERJ6GEYJ183  | S.M.CARB 0.1W 5% 18K Ω  |
| R381    | ERJ6GEYJ473  | S.M.CARB 0.1W 5% 47K Ω  |

| Cct Ref | Parts Number | Description |       |     |      |      |
|---------|--------------|-------------|-------|-----|------|------|
| R451    | ERJ6GEYJ223  | S.M.CARB    | 0.1W  | 5%  | 22K  | 🔌    |
| R452    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R453    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R454    | ERJ6GEYJ752  | S.M.CARB    | 0.1W  | 5%  | 7K5  | 🔌    |
| R455    | ERJ6GEYJ222  | S.M.CARB    | 0.1W  | 5%  | 2K2  | 🔌    |
| R456    | ERJ6GEYJ104  | S.M.CARB    | 0.1W  | 5%  | 100K | 🔌    |
| R457    | ERJ6GEYJ223  | S.M.CARB    | 0.1W  | 5%  | 22K  | 🔌    |
| R458    | ERD25TJ1R5   | CARBON      | 0.25W | 5%  | 1R5  | 🔌    |
| R459    | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R460    | ERDS1TJ331   | CARBON      | 0.5W  | 5%  | 330  | 🔌    |
| R463    | ERD25TJ222   | CARBON      | 0.25W | 5%  | 2K2  | 🔌    |
| R464    | ERJ6GEYJ182  | S.M.CARB    | 0.1W  | 5%  | 1K8  | 🔌    |
| R465    | ERJ6GEYJ681  | S.M.CARB    | 0.1W  | 5%  | 680  | 🔌    |
| R502    | ERJ6GEYJ511  | S.M.CARB    | 0.1W  | 5%  | 510  | 🔌    |
| R506    | ERD25TJ560   | CARBON      | 0.25W | 5%  | 56   | 🔌    |
| R507    | ERG1FJ271P   | METAL       | 1W    | 5%  | 270  | 🔌 ⚠️ |
| R509    | ERDS1TJ152   | CARBON      | 0.5W  | 5%  | 1K5  | 🔌    |
| R510    | ERDS1FJ152   | CARBON      | 0.5W  | 5%  | 1K5  | 🔌 ⚠️ |
| R553    | ERG1SJ152    | METAL       | 1W    | 5%  | 1K5  | 🔌    |
| R554    | ERG1SJ101    | METAL       | 1W    | 5%  | 100  | 🔌    |
| R555    | ERQ12HKR33   | METAL       | 0.5W  | 5%  | R33  | 🔌 ⚠️ |
| R558    | ERDS1TJ124   | CARBON      | 0.5W  | 5%  | 120K | 🔌    |
| R559    | ERQ12HKR33   | METAL       | 0.5W  | 5%  | R33  | 🔌 ⚠️ |
| R560    | ERJ6GEYJ274  | S.M.CARB    | 0.1W  | 5%  | 270K | 🔌    |
| R561    | ERJ6GEYJ273  | S.M.CARB    | 0.1W  | 5%  | 27K  | 🔌    |
| R563    | ERJ6GEYJ474  | S.M.CARB    | 0.1W  | 5%  | 470K | 🔌    |
| R564    | ERJ6GEYJ623  | S.M.CARB    | 0.1W  | 5%  | 62K  | 🔌    |
| R566    | ERJ6GEYJ563  | S.M.CARB    | 0.1W  | 5%  | 56K  | 🔌    |
| R567    | ERF7ZK1R0    | WOUND       | 7W    | 10% | 1    | 🔌 ⚠️ |
| R601    | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R602    | ERJ6GEYJ821  | S.M.CARB    | 0.1W  | 5%  | 820  | 🔌    |
| R603    | ERJ8GEYJ103  | S.M.CARB    | .125W | 5%  | 10K  | 🔌    |
| R604    | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R605    | ERD25TJ331   | CARBON      | 0.25W | 5%  | 330  | 🔌    |
| R606    | ERD25TJ331   | CARBON      | 0.25W | 5%  | 330  | 🔌    |
| R607    | ERJ6GEYJ821  | S.M.CARB    | 0.1W  | 5%  | 820  | 🔌    |
| R608    | ERJ6GEYJ271  | S.M.CARB    | 0.1W  | 5%  | 270  | 🔌    |
| R609    | ERJ6GEYJ122  | S.M.CARB    | 0.1W  | 5%  | 1K2  | 🔌    |
| R610    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R611    | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R612    | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R613    | ERJ6GEYJ152  | S.M.CARB    | 0.1W  | 5%  | 1K5  | 🔌    |
| R622    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R636    | ERJ6GEYJ750  | S.M.CARB    | 0.1W  | 5%  | 75   | 🔌    |
| R645    | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R647    | ERJ6GEYJ472  | S.M.CARB    | 0.1W  | 5%  | 4K7  | 🔌    |
| R648    | ERJ6GEYJ152  | S.M.CARB    | 0.1W  | 5%  | 1K5  | 🔌    |
| R650    | ERJ6GEYJ750  | S.M.CARB    | 0.1W  | 5%  | 75   | 🔌    |
| R651    | ERJ6GEYJ750  | S.M.CARB    | 0.1W  | 5%  | 75   | 🔌    |
| R652    | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |
| R654    | ERJ6GEYJ622  | S.M.CARB    | 0.1W  | 5%  | 6K2  | 🔌    |
| R655    | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R658    | ERJ6GEYJ153  | S.M.CARB    | 0.1W  | 5%  | 15K  | 🔌    |
| R659    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R660    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R701    | ERQ12AJ101   | FUSIBLE     | 0.5W  | 5%  | 100  | 🔌 ⚠️ |
| R703    | ERG2FJ821    | METAL       | 2W    | 5%  | 820  | 🔌 ⚠️ |
| R704    | ERJ6GEYJ563  | S.M.CARB    | 0.1W  | 5%  | 56K  | 🔌    |
| R705    | ERJ6GEYJ104  | S.M.CARB    | 0.1W  | 5%  | 100K | 🔌    |
| R706    | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R707    | ERJ6GEYJ391  | S.M.CARB    | 0.1W  | 5%  | 390  | 🔌    |
| R708    | ERJ6GEYJ393  | S.M.CARB    | 0.1W  | 5%  | 39K  | 🔌    |
| R709    | ERJ6GEYJ393  | S.M.CARB    | 0.1W  | 5%  | 39K  | 🔌    |
| R710    | ERJ6GEYJ273  | S.M.CARB    | 0.1W  | 5%  | 27K  | 🔌    |
| R711    | ERG1SJ101    | METAL       | 1W    | 5%  | 100  | 🔌    |
| R712    | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |

| Cct Ref | Parts Number | Description |       |     |      |      |
|---------|--------------|-------------|-------|-----|------|------|
| R803    | ERC12ZGK335D | SOLID       | 0.5W  | 10% | 3M3  | 🔌    |
| R805    | ERD25TJ473   | CARBON      | 0.25W | 5%  | 47K  | 🔌    |
| R806    | ERD25TJ100   | CARBON      | 0.25W | 5%  | 10   | 🔌    |
| R807    | ERD25TJ332   | CARBON      | 0.25W | 5%  | 3K3  | 🔌    |
| R809    | ERD25TJ681   | CARBON      | 0.25W | 5%  | 680  | 🔌    |
| R810    | ERW2PKR33    | WOUND       | 2W    | 20% | R33  | 🔌 ⚠️ |
| R811    | ERW2PKR33    | WOUND       | 2W    | 20% | R33  | 🔌 ⚠️ |
| R812    | ERD75TAJ825  | CARBON      | 0.75W | 5%  | 8M2  | 🔌 ⚠️ |
| R813    | ERF7ZK2R7    | WOUND       | 7W    | 20% | 2R7  | 🔌 ⚠️ |
| R814    | ERD25TJ473   | CARBON      | 0.25W | 5%  | 47K  | 🔌    |
| R815    | ERD25TJ222   | CARBON      | 0.25W | 5%  | 2K2  | 🔌    |
| R850    | ERD25TJ122   | CARBON      | 0.25W | 5%  | 1K2  | 🔌    |
| R852    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R853    | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |
| R854    | ERG2FJ223    | METAL       | 2W    | 5%  | 22K  | 🔌 ⚠️ |
| R855    | ERJ6GEYJ752  | S.M.CARB    | 0.1W  | 5%  | 7K5  | 🔌    |
| R857    | ERJ6GEYJ752  | S.M.CARB    | 0.1W  | 5%  | 7K5  | 🔌    |
| R858    | ERJ6GEYJ752  | S.M.CARB    | 0.1W  | 5%  | 7K5  | 🔌    |
| R859    | ERJ6GEYJ753  | S.M.CARB    | 0.1W  | 5%  | 75K  | 🔌    |
| R860    | ERQ1CJP2R2   | FUSIBLE     | 1W    | 10% | 2R2  | 🔌 ⚠️ |
| R861    | ERD25TJ221   | CARBON      | 0.25W | 5%  | 220  | 🔌    |
| R862    | ERD25TJ272   | CARBON      | 0.25W | 5%  | 2K7  | 🔌    |
| R863    | ERDS1TJ560   | CARBON      | 0.5W  | 5%  | 56   | 🔌    |
| R864    | ERDS1TJ680   | CARBON      | 0.5W  | 5%  | 68   | 🔌    |
| R865    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R867    | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R868    | ERJ6GEYJ223  | S.M.CARB    | 0.1W  | 5%  | 22K  | 🔌    |
| R869    | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0    | 🔌    |
| R870    | ERJ6GEYJ272  | S.M.CARB    | 0.1W  | 5%  | 2K7  | 🔌    |
| R871    | ERJ6GEYJ153  | S.M.CARB    | 0.1W  | 5%  | 15K  | 🔌    |
| R872    | ERG1SJ183    | METAL       | 1W    | 5%  | 18K  | 🔌    |
| R873    | ERG1SJ223    | METAL       | 1W    | 5%  | 22K  | 🔌    |
| R874    | ERD25TJ104   | CARBON      | 0.25W | 5%  | 100K | 🔌    |
| R876    | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R877    | ERW2PKR56    | WOUND       | 2W    | 10% | R56  | 🔌 ⚠️ |
| R878    | ERJ6GEYJ473  | S.M.CARB    | 0.1W  | 5%  | 47K  | 🔌    |
| R951    | ERJ6GEYJ391  | S.M.CARB    | 0.1W  | 5%  | 390  | 🔌    |
| R952    | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |
| R953    | ERJ6GEYJ750  | S.M.CARB    | 0.1W  | 5%  | 75   | 🔌    |
| R954    | ERJ6GEYJ391  | S.M.CARB    | 0.1W  | 5%  | 390  | 🔌    |
| R1051   | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |
| R1052   | ERJ6GEYJ271  | S.M.CARB    | 0.1W  | 5%  | 270  | 🔌    |
| R1053   | ERJ6GEYJ103  | S.M.CARB    | 0.1W  | 5%  | 10K  | 🔌    |
| R1054   | ERJ6GEYJ750  | S.M.CARB    | 0.1W  | 5%  | 75   | 🔌    |
| R1101   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1102   | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |
| R1103   | ERJ6GEYJ331  | S.M.CARB    | 0.1W  | 5%  | 330  | 🔌    |
| R1104   | ERJ6GEYJ331  | S.M.CARB    | 0.1W  | 5%  | 330  | 🔌    |
| R1105   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1106   | ERJ6GEYJ104  | S.M.CARB    | 0.1W  | 5%  | 100K | 🔌    |
| R1107   | ERJ6GEYJ104  | S.M.CARB    | 0.1W  | 5%  | 100K | 🔌    |
| R1108   | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K   | 🔌    |
| R1109   | ERJ6GEYJ472  | S.M.CARB    | 0.1W  | 5%  | 4K7  | 🔌    |
| R1110   | ERJ6GEYJ472  | S.M.CARB    | 0.1W  | 5%  | 4K7  | 🔌    |
| R1111   | ERJ6GEYJ473  | S.M.CARB    | 0.1W  | 5%  | 47K  | 🔌    |
| R1112   | ERJ6GEYJ473  | S.M.CARB    | 0.1W  | 5%  | 47K  | 🔌    |
| R1113   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1115   | ERJ6GEYJ471  | S.M.CARB    | 0.1W  | 5%  | 470  | 🔌    |
| R1116   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1117   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1118   | ERJ6GEYJ472  | S.M.CARB    | 0.1W  | 5%  | 4K7  | 🔌    |
| R1119   | ERJ6GEYJ472  | S.M.CARB    | 0.1W  | 5%  | 4K7  | 🔌    |
| R1120   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1121   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |
| R1122   | ERD25TJ103   | CARBON      | 0.25W | 5%  | 10K  | 🔌    |
| R1123   | ERJ6GEYJ101  | S.M.CARB    | 0.1W  | 5%  | 100  | 🔌    |

| Cct Ref | Parts Number | Description |      |    |      |   |
|---------|--------------|-------------|------|----|------|---|
| R1125   | ERJ6GEYJ472  | S.M.CARB    | 0.1W | 5% | 4K7  | 🔌 |
| R1126   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1127   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1128   | ERJ6GEYJ682  | S.M.CARB    | 0.1W | 5% | 6K8  | 🔌 |
| R1129   | ERJ6GEYJ682  | S.M.CARB    | 0.1W | 5% | 6K8  | 🔌 |
| R1130   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌 |
| R1131   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌 |
| R1132   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1133   | ERJ6GEYJ273  | S.M.CARB    | 0.1W | 5% | 27K  | 🔌 |
| R1136   | ERJ6GEYJ823  | S.M.CARB    | 0.1W | 5% | 82K  | 🔌 |
| R1137   | ERJ6GEY0R00  | S.M.CARB    | 0.1W | 5% | 0    | 🔌 |
| R1138   | ERJ6GEYJ474  | S.M.CARB    | 0.1W | 5% | 470K | 🔌 |
| R1139   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌 |
| R1140   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌 |
| R1141   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌 |
| R1145   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1146   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1147   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1148   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1149   | ERJ6GEYJ223  | S.M.CARB    | 0.1W | 5% | 22K  | 🔌 |
| R1151   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1152   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1156   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R1157   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌 |
| R1158   | ERJ6GEY0R00  | S.M.CARB    | 0.1W | 5% | 0    | 🔌 |
| R1159   | ERJ6GEY0R00  | S.M.CARB    | 0.1W | 5% | 0    | 🔌 |
| R1160   | ERJ6GEYJ223  | S.M.CARB    | 0.1W | 5% | 22K  | 🔌 |
| R1161   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌 |
| R1162   | ERJ6GEYJ222  | S.M.CARB    | 0.1W | 5% | 2K2  | 🔌 |
| R1163   | ERJ6GEYJ222  | S.M.CARB    | 0.1W | 5% | 2K2  | 🔌 |
| R1164   | ERJ6GEYJ332  | S.M.CARB    | 0.1W | 5% | 3K3  | 🔌 |
| R1165   | ERJ6GEYJ512  | S.M.CARB    | 0.1W | 5% | 5K1  | 🔌 |
| R1166   | ERJ6GEYJ912  | S.M.CARB    | 0.1W | 5% | 9K1  | 🔌 |
| R1167   | ERJ6GEYJ100  | S.M.CARB    | 0.1W | 5% | 10   | 🔌 |
| R1168   | ERJ6GEYJ473  | S.M.CARB    | 0.1W | 5% | 47K  | 🔌 |
| R1169   | ERJ6GEYJ472  | S.M.CARB    | 0.1W | 5% | 4K7  | 🔌 |
| R1170   | ERJ6GEYJ273  | S.M.CARB    | 0.1W | 5% | 27K  | 🔌 |
| R1171   | ERJ6GEYJ224  | S.M.CARB    | 0.1W | 5% | 220K | 🔌 |
| R1172   | ERJ6GEYJ223  | S.M.CARB    | 0.1W | 5% | 22K  | 🔌 |
| R1173   | ERJ6GEYJ104  | S.M.CARB    | 0.1W | 5% | 100K | 🔌 |
| R1174   | ERJ6GEYJ221  | S.M.CARB    | 0.1W | 5% | 220  | 🔌 |
| R1175   | ERJ6GEYJ225  | S.M.CARB    | 0.1W | 5% | 2M2  | 🔌 |
| R1176   | ERJ6GEYJ100  | S.M.CARB    | 0.1W | 5% | 10   | 🔌 |
| R2101   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌 |
| R2102   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2103   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2104   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2105   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2106   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2107   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2108   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2109   | ERJ6GEYJ183  | S.M.CARB    | 0.1W | 5% | 18K  | 🔌 |
| R2110   | ERJ6GEY0R00  | S.M.CARB    | 0.1W | 5% | 0    | 🔌 |
| R2111   | ERJ6GEYJ221  | S.M.CARB    | 0.1W | 5% | 220  | 🔌 |
| R2112   | ERJ6GEYJ102  | S.M.CARB    | 0.1W | 5% | 1K   | 🔌 |
| R2113   | ERJ6GEYJ562  | S.M.CARB    | 0.1W | 5% | 5K6  | 🔌 |
| R2114   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2115   | ERJ6GEYJ222  | S.M.CARB    | 0.1W | 5% | 2K2  | 🔌 |
| R2116   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2117   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2118   | ERJ6GEYJ222  | S.M.CARB    | 0.1W | 5% | 2K2  | 🔌 |
| R2119   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2120   | ERJ6GEYJ222  | S.M.CARB    | 0.1W | 5% | 2K2  | 🔌 |
| R2302   | ERJ6GEYJ104  | S.M.CARB    | 0.1W | 5% | 100K | 🔌 |
| R2303   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌 |
| R2304   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌 |

| Cct Ref | Parts Number | Description |      |    |      |      |
|---------|--------------|-------------|------|----|------|------|
| R2305   | ERJ6GEYJ102  | S.M.CARB    | 0.1W | 5% | 1K   | 🔌    |
| R2306   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌    |
| R2308   | ERJ6GEYJ104  | S.M.CARB    | 0.1W | 5% | 100K | 🔌    |
| R2309   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R2310   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌    |
| R2311   | ERJ6GEYJ102  | S.M.CARB    | 0.1W | 5% | 1K   | 🔌    |
| R2312   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌    |
| R3001   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3002   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌    |
| R3003   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3004   | ERJ6GEYJ153  | S.M.CARB    | 0.1W | 5% | 15K  | 🔌    |
| R3005   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3006   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌    |
| R3007   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3008   | ERJ6GEYJ153  | S.M.CARB    | 0.1W | 5% | 15K  | 🔌    |
| R3009   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3010   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3011   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3012   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3013   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3014   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌    |
| R3015   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3016   | ERJ6GEYJ153  | S.M.CARB    | 0.1W | 5% | 15K  | 🔌    |
| R3017   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3018   | ERJ6GEYJ471  | S.M.CARB    | 0.1W | 5% | 470  | 🔌    |
| R3019   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3020   | ERJ6GEYJ153  | S.M.CARB    | 0.1W | 5% | 15K  | 🔌    |
| R3021   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3022   | ERJ6GEYJ102  | S.M.CARB    | 0.1W | 5% | 1K   | 🔌    |
| R3023   | ERJ6GEYJ123  | S.M.CARB    | 0.1W | 5% | 12K  | 🔌    |
| R3024   | ERJ6GEYJ472  | S.M.CARB    | 0.1W | 5% | 4K7  | 🔌    |
| R3025   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3026   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3044   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3046   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3047   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3048   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌    |
| R3049   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3050   | ERJ6GEYJ103  | S.M.CARB    | 0.1W | 5% | 10K  | 🔌    |
| R3057   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3101   | ERDS1TJ151   | CARBON      | 0.5W | 5% | 150  | 🔌    |
| R3102   | ERDS1TJ151   | CARBON      | 0.5W | 5% | 150  | 🔌    |
| R3103   | ERG2FJ221    | METAL       | 2W   | 5% | 220  | 🔌 ⚠️ |
| R3104   | ERG2FJ221    | METAL       | 2W   | 5% | 220  | 🔌 ⚠️ |
| R3105   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3106   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3107   | ERJ6GEYJ153  | S.M.CARB    | 0.1W | 5% | 15K  | 🔌    |
| R3108   | ERJ6GEYJ153  | S.M.CARB    | 0.1W | 5% | 15K  | 🔌    |
| R3402   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3403   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3404   | ERJ6GEYJ242  | S.M.CARB    | 0.1W | 5% | 2K4  | 🔌    |
| R3405   | ERJ6GEYJ104  | S.M.CARB    | 0.1W | 5% | 100K | 🔌    |
| R3406   | ERJ6GEYJ301  | S.M.CARB    | 0.1W | 5% | 300  | 🔌    |
| R3407   | ERJ6GEYJ123  | S.M.CARB    | 0.1W | 5% | 12K  | 🔌    |
| R3408   | ERJ6GEYJ472  | S.M.CARB    | 0.1W | 5% | 4K7  | 🔌    |
| R3409   | ERJ6GEYJ750  | S.M.CARB    | 0.1W | 5% | 75   | 🔌    |
| R3601   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3602   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3603   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3604   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3605   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3606   | ERJ6GEYJ101  | S.M.CARB    | 0.1W | 5% | 100  | 🔌    |
| R3607   | ERJ6GEYJ472  | S.M.CARB    | 0.1W | 5% | 4K7  | 🔌    |
| R3608   | ERJ6GEYJ752  | S.M.CARB    | 0.1W | 5% | 7K5  | 🔌    |
| R3609   | ERJ6GEY0R00  | S.M.CARB    | 0.1W | 5% | 0    | 🔌    |
| R3610   | ERJ6GEYJ102  | S.M.CARB    | 0.1W | 5% | 1K   | 🔌    |

| Cct Ref           | Parts Number | Description |       |       |
|-------------------|--------------|-------------|-------|-------|
| <b>CAPACITORS</b> |              |             |       |       |
| C102              | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C103              | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C106              | ECUV1H560JCX | S.M. CAP    | 50V   | 56pF  |
| C107              | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C108              | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C109              | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C110              | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C111              | ECA1HMR33GB  | ELECT       | 50V   | 10nF  |
| C117              | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C118              | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C119              | ECA1CM221GB  | ELECT       | 16V   | 220µF |
| C120              | ECA1CM221GB  | ELECT       | 16V   | 220µF |
| C121              | ECUV1H561KBX | S.M. CAP    | 50V   | 560pF |
| C122              | ECUV1H102KBX | S.M. CAP    | 50V   | 1nF   |
| C123              | ECUV1H102KBX | S.M. CAP    | 50V   | 1nF   |
| C124              | ECUV1H220JCX | S.M. CAP    | 50V   | 22pF  |
| C125              | ECUV1H100DCX | S.M. CAP    | 50V   | 10pF  |
| C251              | ECA1EM100GB  | ELECT       | 25V   | 10pF  |
| C252              | ECUV1H223KBX | S.M. CAP    | 50V   | 22nF  |
| C253              | ECA1HM4R7GB  | ELECT       | 50V   | 4.7µF |
| C254              | ECQM1H184J   | FILM        | 50V   | 4.7µF |
| C255              | ECA1EM101GB  | ELECT       | 25V   | 100µF |
| C256              | ECUV1H223KBX | S.M. CAP    | 50V   | 22nF  |
| C257              | ECA1HM4R7GB  | ELECT       | 50V   | 4.7µF |
| C258              | ECA1EM100GB  | ELECT       | 25V   | 4.7µF |
| C259              | ECQM1H184J   | FILM        | 50V   | 4.7µF |
| C260              | ECA1VM102GB  | ELECT       | 35V   | 1nF   |
| C261              | ECA1VM102GB  | ELECT       | 35V   | 1nF   |
| C262              | ECQM1H474J   | FILM        | 50V   | 470nF |
| C263              | ECA1HM010GB  | ELECT       | 50V   | 1µF   |
| C264              | ECA1HHG222E  | ELECT       | 50V   | 1µF   |
| C265              | ECQM1H474J   | FILM        | 50V   | 470nF |
| C266              | ECA1HM010GB  | ELECT       | 50V   | 1µF   |
| C267              | ECJ2VB1H104K | ELECT       | 350V  | 100nF |
| C268              | ECJ2VB1H104K | ELECT       | 350V  | 100nF |
| C270              | ECJ2VB1H104K | ELECT       | 350V  | 100nF |
| C301              | ECJ2VB1C104K | ELECT       | 350V  | 100nF |
| C302              | ECJ2VB1C104K | ELECT       | 350V  | 100nF |
| C303              | ECJ2VB1C104K | ELECT       | 350V  | 100nF |
| C304              | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C354              | ECQM2104KZ   | FILM        | 250V  | 100nF |
| C355              | ECUV1H471JCX | S.M. CAP    | 50V   | 470pF |
| C356              | ECUV1H471JCX | S.M. CAP    | 50V   | 470pF |
| C357              | ECUV1H471JCX | S.M. CAP    | 50V   | 470pF |
| C358              | ECQM1H224J   | FILM        | 50V   | 220nF |
| C360              | ECKC3D152J   | CERAMIC     | 2KV   | 1.5nF |
| C361              | ECA1HMR47GB  | ELECT       | 50V   | 1.5nF |
| C363              | ECA1VM471GB  | ELECT       | 35V   | 470µF |
| C364              | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C451              | ECUV1H102JX  | S.M. CAP    | 50V   | 10nF  |
| C453              | ECUV1H152KBX | S.M. CAP    | 50V   | 10nF  |
| C454              | ECUV1H223KBM | S.M. CAP    | 50V   | 10nF  |
| C455              | ECA1HM100GB  | ELECT       | 50V   | 10µF  |
| C456              | ECA1HHG221B  | ELECT       | 50V   | 220µF |
| C458              | ECQB1222JF3  | FILM        | 100V  | 2.2nF |
| C459              | 222236516154 | FILM        | 160V  | 2.2nF |
| C461              | ECCR2H270J   | CERAMIC     | 500V  | 27pF  |
| C508              | ECQV1H105JZ  | FILM        | 50V   | 1µF   |
| C509              | ECEA1HU101   | ELECT       | 50V   | 100µF |
| C510              | ECUV1H104KBX | S.M. CAP    | 50V   | 100µF |
| C511              | ECQM2683JZ   | FILM        | 250V  | 68nF  |
| C552              | ECWH15H102J  | FILM        | 1500V | 1nF   |
| C557              | ECKC2H471J   | CERAMIC     | 500V  | 470pF |
| C558              | ECA1HHG471E  | ELECT       | 50V   | 470µF |
| C560              | ECA2GHG2R2B  | ELECT       | 400V  | 470µF |

| Cct Ref | Parts Number | Description |       |       |
|---------|--------------|-------------|-------|-------|
| C561    | ECA1EHG102B  | ELECT       | 25V   | 470µF |
| C562    | ECKC2H101J   | CERAMIC     | 500V  | 100pF |
| C563    | ECA2EHG220B  | ELECT       | 250V  | 20µF  |
| C564    | ECEA2AU2R2   | ELECT       | 100V  | 20µF  |
| C565    | ECQP1H273J   | FILM        | 100V  | 20µF  |
| C566    | ECKC2H471J   | CERAMIC     | 500V  | 470pF |
| C567    | ECA1EHG102B  | ELECT       | 25V   | 470pF |
| C568    | ECKC2H471J   | CERAMIC     | 500V  | 470pF |
| C569    | ECKC2H102J   | CERAMIC     | 500V  | 1nF   |
| C601    | ECUV1H104KBX | S.M. CAP    | 50V   | 1nF   |
| C602    | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C603    | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C604    | ECJ2VF1H223Z | ELECT       | 350V  | 22nF  |
| C605    | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C606    | ECA1HM3R3GB  | ELECT       | 50V   | 3.3µF |
| C607    | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C608    | ECUV1H153KBX | S.M. CAP    | 50V   | 15nF  |
| C609    | ECUV1H153KBX | S.M. CAP    | 50V   | 15nF  |
| C610    | ECUV1H153KBX | S.M. CAP    | 50V   | 15nF  |
| C611    | ECUV1H153KBX | S.M. CAP    | 50V   | 15nF  |
| C612    | ECUV1H153KBX | S.M. CAP    | 50V   | 15nF  |
| C613    | ECUV1H153KBX | S.M. CAP    | 50V   | 15nF  |
| C614    | ECUV1H050CCX | S.M. CAP    | 50V   | 50pF  |
| C615    | ECUV1H050CCX | S.M. CAP    | 50V   | 50pF  |
| C616    | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C617    | ECUV1H223KBX | S.M. CAP    | 50V   | 22nF  |
| C618    | ECA1CM221GB  | ELECT       | 16V   | 220µF |
| C619    | ECJ2VB1H473K | ELECT       | 350V  | 47nF  |
| C620    | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C621    | ECJ2VB1C104K | ELECT       | 350V  | 100nF |
| C622    | ECUV1H683KBX | S.M. CAP    | 50V   | 68nF  |
| C623    | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C624    | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C625    | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C626    | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C627    | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C628    | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C629    | ECUV1H104KBX | S.M. CAP    | 50V   | 10µF  |
| C630    | ECUV1H100DCX | S.M. CAP    | 50V   | 10pF  |
| C631    | ECUV1H683ZFX | S.M. CAP    | 50V   | 68nF  |
| C632    | ECUV1H270JCX | S.M. CAP    | 50V   | 27pF  |
| C633    | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C634    | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C635    | ECUV1H180JCX | S.M. CAP    | 50V   | 18pF  |
| C636    | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C637    | ECUV1H101JCX | S.M. CAP    | 50V   | 100pF |
| C638    | ECUV1H471JCX | S.M. CAP    | 50V   | 470pF |
| C639    | ECUV1H332KBM | S.M. CAP    | 50V   | 470pF |
| C701    | ECA1HHG101B  | ELECT       | 50V   | 100µF |
| C702    | ECUV1H103KBX | S.M. CAP    | 50V   | 10nF  |
| C703    | ECEA1HGE100  | ELECT       | 50V   | 10µF  |
| C704    | ECQB1H223K   | FILM        | 50V   | 22nF  |
| C705    | ECQB1H222J   | FILM        | 50V   | 2.2nF |
| C804    | ECQE2A474MWB | FILM        | 100V  | 470nF |
| C806    | ECKWNA101MBC | CERAMIC     | 400V  | 100µF |
| C807    | ECKC2H472J   | CERAMIC     | 500V  | 4.7nF |
| C808    | ECKC2H472J   | CERAMIC     | 500V  | 4.7nF |
| C809    | ECKC2H472J   | CERAMIC     | 500V  | 4.7nF |
| C810    | ECKC2H472J   | CERAMIC     | 500V  | 4.7nF |
| C814    | ECKC3D102J   | CERAMIC     | 2KV   | 1nF   |
| C815    | ECKC1H471J   | CERAMIC     | 50V   | 470pF |
| C816    | ECA1EM101GB  | ELECT       | 25V   | 100µF |
| C817    | ECQE6104K    | FILM        | 600V  | 100nF |
| C818    | ECKWNA332MEC | CERAMIC     | 250V  | 3.3nF |
| C819    | ECQB1H152K   | FILM        | 50V   | 1.5nF |
| C850    | ECKC3D471JB  | CERAMIC     | 2KV   | 470pF |

| Cct Ref | Parts Number | Description |       |       |
|---------|--------------|-------------|-------|-------|
| C851    | ECA2CM221E   | ELECT       | 160V  | 220µF |
| C852    | ECA2CHG101E  | ELECT       | 160V  | 100µF |
| C853    | ECKC2H471J   | CERAMIC     | 500V  | 470pF |
| C854    | ECA1EM102GB  | ELECT       | 25V   | 100µF |
| C855    | ECKC2H471J   | CERAMIC     | 500V  | 470pF |
| C856    | ECA1AHG222B  | ELECT       | 10V   | 470pF |
| C857    | ECKC2H471J   | CERAMIC     | 500V  | 470pF |
| C858    | ECEA1HGE102  | ELECT       | 50V   | 470pF |
| C859    | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C860    | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C862    | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C863    | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C866    | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C867    | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C868    | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C869    | ECA1EM101GB  | ELECT       | 25V   | 100µF |
| C870    | ECA1EM471GB  | ELECT       | 25V   | 470µF |
| C871    | ECA1CM102B   | ELECT       | 16V   | 470µF |
| C872    | ECA1CM471GB  | ELECT       | 16V   | 470µF |
| C873    | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C875    | ECA2CM4R7B   | ELECT       | 160V  | 10µF  |
| C876    | ECA1AHG471E  | ELECT       | 10V   | 470pF |
| C950    | ECJ2VB1C104K | ELECT       | 350V  | 100nF |
| C1051   | ECUV1H103KBX | S.M. CAP    | 50V   | 10nF  |
| C1052   | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C1053   | ECUV1H331JCX | S.M. CAP    | 50V   | 330pF |
| C1101   | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C1102   | ECA0JM101G   | ELECT       | 6.3V  | 100µF |
| C1103   | ECUV1H220JCX | S.M. CAP    | 50V   | 22pF  |
| C1104   | ECUV1H220JCX | S.M. CAP    | 50V   | 22pF  |
| C1105   | ECUV1H101JCX | S.M. CAP    | 50V   | 100pF |
| C1108   | ECJ2VB1H333K | ELECT       | 350V  | 33nF  |
| C1111   | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C1112   | ECUV1H103KBX | S.M. CAP    | 50V   | 10nF  |
| C1115   | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C1116   | ECUV1H472KBX | S.M. CAP    | 50V   | 4.7nF |
| C1117   | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C1118   | ECUV1H103KBX | S.M. CAP    | 50V   | 10nF  |
| C1119   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C1120   | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C1121   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C1123   | ECUV1H101JCX | S.M. CAP    | 50V   | 100pF |
| C1124   | ECUV1H101JCX | S.M. CAP    | 50V   | 100pF |
| C1125   | ECUV1H101JCX | S.M. CAP    | 50V   | 100pF |
| C1126   | ECUV1H101JCX | S.M. CAP    | 50V   | 100pF |
| C1127   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C1128   | ECUV1H223KBX | S.M. CAP    | 50V   | 22nF  |
| C1129   | ECUV1H270JCX | S.M. CAP    | 50V   | 27pF  |
| C2101   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2102   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2103   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2104   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2105   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2106   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2107   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2108   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2109   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2110   | ECUV1H102JCX | S.M. CAP    | 50V   | 1nF   |
| C2111   | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C2112   | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C2113   | ECA1HM3R3GB  | ELECT       | 50V   | 3.3µF |
| C2114   | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C2115   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2116   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2117   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2118   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |

| Cct Ref | Parts Number | Description |       |       |
|---------|--------------|-------------|-------|-------|
| C2119   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2120   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2121   | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C2122   | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C2123   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2124   | ECUV1H070DTX | S.M. CAP    | 50V   | 70pF  |
| C2125   | ECUV1H470JCX | S.M. CAP    | 50V   | 47pF  |
| C2126   | ECUV1H070DTX | S.M. CAP    | 50V   | 70pF  |
| C2127   | ECUV1H010CCX | S.M. CAP    | 50V   | 1pF   |
| C2128   | ECUV1H010CCX | S.M. CAP    | 50V   | 1pF   |
| C2129   | ECA1CM102B   | ELECT       | 16V   | 1pF   |
| C2130   | ECA1CM331B   | ELECT       | 16V   | 330µF |
| C2131   | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C2132   | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C2134   | ECUV1H103ZFX | S.M. CAP    | 50V   | 10nF  |
| C2135   | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C2136   | ECJ2VF1H104Z | ELECT       | 350V  | 100nF |
| C2137   | ECA1CM100GB  | ELECT       | 16V   | 10µF  |
| C2138   | ECUV1H471KBX | S.M. CAP    | 50V   | 470pF |
| C2139   | ECUV1H221JCX | S.M. CAP    | 50V   | 220pF |
| C2140   | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C2141   | ECUV1H152JCX | S.M. CAP    | 50V   | 1.5pF |
| C2301   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C2302   | ECA1CM470GB  | ELECT       | 16V   | 47µF  |
| C2303   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C2304   | ECA1CM470GB  | ELECT       | 16V   | 47µF  |
| C3001   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3002   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3003   | ECA1CM470GB  | ELECT       | 16V   | 47µF  |
| C3005   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3006   | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C3007   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3008   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3009   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3010   | ECA1CM470GB  | ELECT       | 16V   | 47µF  |
| C3012   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3013   | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C3014   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3015   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3016   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3017   | ECA1CM470GB  | ELECT       | 16V   | 47µF  |
| C3019   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3020   | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C3021   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3022   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3023   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3024   | ECA1CM470GB  | ELECT       | 16V   | 47µF  |
| C3026   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3027   | ECJ3VB1C474K | ELECT       | 3.5KV | 470nF |
| C3028   | ECUV1H222JCX | S.M. CAP    | 50V   | 2.2nF |
| C3029   | ECA1HM101GB  | ELECT       | 50V   | 100µF |
| C3032   | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C3033   | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C3034   | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C3035   | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C3101   | ECUV1H104KBX | S.M. CAP    | 50V   | 270pF |
| C3102   | ECUV1H104KBX | S.M. CAP    | 50V   | 270pF |
| C3103   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3104   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3105   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3106   | ECUV1H561JCX | S.M. CAP    | 50V   | 560pF |
| C3107   | ECA1HM470GB  | ELECT       | 50V   | 47µF  |
| C3108   | ECA1HM470GB  | ELECT       | 50V   | 47µF  |
| C3111   | ECUV1H391JCX | S.M. CAP    | 50V   | 390pF |
| C3112   | ECUV1H271JCX | S.M. CAP    | 50V   | 270pF |
| C3401   | ECQM1H224J   | FILM        | 50V   | 220nF |

| Cct Ref                                | Parts Number | Description          |       |       |      |  |
|----------------------------------------|--------------|----------------------|-------|-------|------|--|
| C3402                                  | ECUV1H101JCX | S.M. CAP             | 50V   | 100pF |      |  |
| C3403                                  | ECA1HM101GB  | ELECT                | 50V   | 100µF |      |  |
| C3404                                  | ECQM1H224J   | FILM                 | 50V   | 220nF |      |  |
| C3405                                  | ECUV1H180JCX | S.M. CAP             | 50V   | 18pF  |      |  |
| C3406                                  | ECUV1H271JCX | S.M. CAP             | 50V   | 270pF |      |  |
| C3407                                  | ECUV1H271JCX | S.M. CAP             | 50V   | 270pF |      |  |
| C3408                                  | ECA1HM101GB  | ELECT                | 50V   | 100µF |      |  |
| C3601                                  | ECA1HM101GB  | ELECT                | 50V   | 100µF |      |  |
| JSE28                                  | ECUV1H104KBX | S.M. CAP             | 50V   | 100µF |      |  |
| <b>TERMINALS AND LINKS</b>             |              |                      |       |       |      |  |
| JK2301                                 | JPJ841101320 | RCA / HEADPHONE JACK |       |       |      |  |
| JK3101                                 | TJB16673     | A.V. TERMINAL        |       |       |      |  |
| <b>SWITCHES</b>                        |              |                      |       |       |      |  |
| S801                                   | ESB92S11B    | SWITCH               |       |       |      |  |
| S1201                                  | EVQ23405R    | SWITCH               |       |       |      |  |
| S1202                                  | EVQ23405R    | SWITCH               |       |       |      |  |
| S1203                                  | EVQ23405R    | SWITCH               |       |       |      |  |
| S1204                                  | EVQ23405R    | SWITCH               |       |       |      |  |
| S1205                                  | EVQ23405R    | SWITCH               |       |       |      |  |
| <b>DIFFERENCES FOR MODEL TX-21MD4P</b> |              |                      |       |       |      |  |
| <b>MECHANICAL PARTS</b>                |              |                      |       |       |      |  |
| 8                                      | TKU8E00370   | BACK COVER           |       |       |      |  |
| 9                                      | A51ECQ51X01  | C.R.T.               |       |       |      |  |
| 10                                     | TKY8E170     | CABINET              |       |       |      |  |
| 11                                     | VP15005-35   | CRT FIXING SCREW     |       |       |      |  |
| 12                                     | TLK8E05143   | DEGAUSS COIL         |       |       |      |  |
| 13                                     | TNP8EE009BR  | E P.C.B.             |       |       |      |  |
| 14                                     | TQF8E2693    | MODEL LABEL          |       |       |      |  |
| 15                                     | TBM153022    | PANASONIC BADGE      |       |       |      |  |
| 16                                     | TBX8E041-1   | POWER BUTTON         |       |       |      |  |
| 18                                     | TNP8EY013AA  | Y P.C.B.             |       |       |      |  |
| <b>MISCELLANEOUS COMPONENTS</b>        |              |                      |       |       |      |  |
|                                        | TPC8E4674    | OUTER CARTON         |       |       |      |  |
|                                        | TPD8E606-1   | TOP CUSHION          |       |       |      |  |
|                                        | TPD8E607-1   | BOTTOM CUSHION       |       |       |      |  |
|                                        | ZTUZAE450A   | ANODE LEAD           |       |       |      |  |
| <b>I.C.s</b>                           |              |                      |       |       |      |  |
| IC850                                  | SE130N       | ERROR AMPLIFIER      |       |       |      |  |
| IC1103                                 | XGL2-01DP    | EAROM *              |       |       |      |  |
| <b>TRANSFORMERS</b>                    |              |                      |       |       |      |  |
| T801                                   | ETS39AG1K7AD | TRANSFORMER          |       |       |      |  |
| <b>COILS</b>                           |              |                      |       |       |      |  |
| L552                                   | ELH5L4104    | COIL                 |       |       |      |  |
| <b>CRYSTALS</b>                        |              |                      |       |       |      |  |
| X2101                                  | 4730007158   | CRYSTAL              |       |       |      |  |
| <b>RESISTORS</b>                       |              |                      |       |       |      |  |
| R357                                   | ERDS1TJ104   | CARBON               | 0.5W  | 5%    | 100K |  |
| R358                                   | ERDS1TJ104   | CARBON               | 0.5W  | 5%    | 100K |  |
| R359                                   | ERDS1TJ104   | CARBON               | 0.5W  | 5%    | 100K |  |
| R363                                   | ERDS1TJ103   | CARBON               | 0.5W  | 5%    | 10K  |  |
| R364                                   | ERDS1TJ103   | CARBON               | 0.5W  | 5%    | 10K  |  |
| R365                                   | ERDS1TJ103   | CARBON               | 0.5W  | 5%    | 10K  |  |
| R369                                   | ERD25TJ123   | CARBON               | 0.25W | 5%    | 12K  |  |
| R370                                   | ERD25TJ272   | CARBON               | 0.25W | 5%    | 2K7  |  |
| R377                                   | ERQ1ABJP5R6S | METAL                | 0.5W  | 5%    | 5R6  |  |
| R378                                   | ERJ6GEY0R00  | S.M.CARB             | 0.1W  | 5%    | 0    |  |
| R379                                   | ERJ6GEY0R00  | S.M.CARB             | 0.1W  | 5%    | 0    |  |
| R380                                   | ERJ6GEY0R00  | S.M.CARB             | 0.1W  | 5%    | 0    |  |
| R461                                   | ERW2PK2R2    | WOUND                | 2W    | 10%   | 2R2  |  |
| R702                                   | ERQ12HJ220   | METAL                | 0.5W  | 5%    | 22   |  |

| Cct Ref                         | Parts Number | Description      |       |                                                                                           |      |                                                                                       |
|---------------------------------|--------------|------------------|-------|-------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------|
| CAPACITORS                      |              |                  |       |                                                                                           |      |                                                                                       |
| C365                            | ECA1CM100GB  | ELECT            | 16V   | 10µF                                                                                      |      |                                                                                       |
| C551                            | ECKC3D561J   | CERAMIC          | 2KV   | 10µF   |      |                                                                                       |
| C555                            | ECWH15H822J  | FILM             | 1500V | 8.2nF                                                                                     |      |                                                                                       |
| C556                            | ECQF4123JZH  | FILM             | 400V  | 12nF   |      |                                                                                       |
| C559                            | ECWF2474JBB  | FILM             | 500V  | 470nF  |      |                                                                                       |
| C811                            | ECOS2GA151CB | ELECT            | 400V  | 150pF                                                                                     |      |                                                                                       |
| DIFFERENCES FOR MODEL TX-25MD4P |              |                  |       |                                                                                           |      |                                                                                       |
| MECHANICAL PARTS                |              |                  |       |                                                                                           |      |                                                                                       |
| 8                               | TKU8E00360   | BACK COVER       |       |                                                                                           |      |    |
| 9                               | A59ECF50X41  | C.R.T.           |       |                                                                                           |      |    |
| 10                              | TKY8E180     | CABINET          |       |                                                                                           |      |    |
| 11                              | VP17005-32   | CRT FIXING SCREW |       |                                                                                           |      |                                                                                       |
| 12                              | TLK8E05138   | DEGAUSS COIL     |       |                                                                                           |      |    |
| 13                              | TNP8EE009BL  | E P.C.B.         |       |                                                                                           |      |    |
| 14                              | TQF8E2694    | MODEL LABEL      |       |                                                                                           |      |    |
| 15                              | TBM8E1728    | PANASONIC BADGE  |       |                                                                                           |      |                                                                                       |
| 16                              | TBX8E042-1   | POWER BUTTON     |       |                                                                                           |      |                                                                                       |
| 17                              | TSX8E0028    | POWER CORD       |       |                                                                                           |      |                                                                                       |
| 18                              | TNP8EY012AA  | Y P.C.B.         |       |                                                                                           |      |    |
| MISCELLANEOUS COMPONENTS        |              |                  |       |                                                                                           |      |                                                                                       |
|                                 | TPC8E4675    | OUTER CARTON     |       |                                                                                           |      |                                                                                       |
|                                 | TPD8E608-1   | TOP CUSHION      |       |                                                                                           |      |                                                                                       |
|                                 | TPD8E609     | BOTTOM CUSHION   |       |                                                                                           |      |                                                                                       |
|                                 | ZTUZAE550A   | ANODE LEAD       |       |                                                                                           |      |    |
| I.C.s                           |              |                  |       |                                                                                           |      |                                                                                       |
| IC850                           | SE140N       | ERROR AMPLIFER   |       |                                                                                           |      |                                                                                       |
| IC1103                          | XGL2-01EP    | EAROM *          |       |                                                                                           |      |                                                                                       |
| DIODES                          |              |                  |       |                                                                                           |      |                                                                                       |
| D901                            | MA165TA5     | DIODE            |       |                                                                                           |      |                                                                                       |
| D902                            | MA165TA5     | DIODE            |       |                                                                                           |      |                                                                                       |
| D904                            | MA165TA5     | DIODE            |       |                                                                                           |      |                                                                                       |
| D905                            | MA165TA5     | DIODE            |       |                                                                                           |      |                                                                                       |
| D906                            | RLS72TE-11   | DIODE            |       |                                                                                           |      |                                                                                       |
| TRANSISTORS                     |              |                  |       |                                                                                           |      |                                                                                       |
| Q905                            | BC847B       | TRANSISTOR       |       |                                                                                           |      |                                                                                       |
| Q906                            | BC847B       | TRANSISTOR       |       |                                                                                           |      |                                                                                       |
| Q907                            | BC857B       | TRANSISTOR       |       |                                                                                           |      |                                                                                       |
| Q908                            | 2SA1535ARLB  | TRANSISTOR       |       |                                                                                           |      |                                                                                       |
| Q909                            | 2SC3944ARLB  | TRANSISTOR       |       |                                                                                           |      |                                                                                       |
| TRANSFORMERS                    |              |                  |       |                                                                                           |      |                                                                                       |
| T801                            | ETS39AG1J7AD | TRANSFORMER      |       |                                                                                           |      |                                                                                       |
| COILS                           |              |                  |       |                                                                                           |      |                                                                                       |
| L552                            | ELH5L4105    | COIL             |       |                                                                                           |      |                                                                                       |
| L554                            | ELC18B102L   | COIL             |       |                                                                                           |      |                                                                                       |
| L901                            | EXCELSA24T   | COIL             |       |                                                                                           |      |                                                                                       |
| L902                            | EXCELSA24T   | COIL             |       |                                                                                           |      |                                                                                       |
| CRYSTALS                        |              |                  |       |                                                                                           |      |                                                                                       |
| X2101                           | 4730007158   | CRYSTAL          |       |                                                                                           |      |                                                                                       |
| RESISTORS                       |              |                  |       |                                                                                           |      |                                                                                       |
| JA1                             | ERJ6GEY0R00  | S.M.CARB         | 0.1W  | 5%                                                                                        | 0    |  |
| JA2                             | ERJ6GEY0R00  | S.M.CARB         | 0.1W  | 5%                                                                                        | 0    |  |
| JA3                             | ERJ6GEY0R00  | S.M.CARB         | 0.1W  | 5%                                                                                        | 0    |  |
| R357                            | ERDS1TJ114   | CARBON           | 0.5W  | 5%                                                                                        | 110K |  |
| R358                            | ERDS1TJ114   | CARBON           | 0.5W  | 5%                                                                                        | 110K |  |
| R359                            | ERDS1TJ114   | CARBON           | 0.5W  | 5%                                                                                        | 110K |  |
| R363                            | ERD25TJ103   | CARBON           | 0.25W | 5%                                                                                        | 10K  |  |
| R364                            | ERD25TJ103   | CARBON           | 0.25W | 5%                                                                                        | 10K  |  |
| R365                            | ERD25TJ103   | CARBON           | 0.25W | 5%                                                                                        | 10K  |  |
| R369                            | ERD25TJ472   | CARBON           | 0.25W | 5%                                                                                        | 4K7  |  |

| Cct Ref                                | Parts Number | Description      |       |     |       |      |
|----------------------------------------|--------------|------------------|-------|-----|-------|------|
| R370                                   | ERJ6GEYJ102  | S.M.CARB         | 0.1W  | 5%  | 1K    | 🔍    |
| R377                                   | ERQ1ABJP5R1  | METAL            | 0.5W  | 5%  | 5R1   | 🔍 ⚠️ |
| R461                                   | ERW2PK1R2    | WOUND            | 2W    | 10% | 1R2   | 🔍 ⚠️ |
| R702                                   | ERQ12HJ8R2   | FUSIBLE          | 0.5W  | 5%  | 8R2   | 🔍 ⚠️ |
| R913                                   | ERJ6GEYJ473  | S.M.CARB         | 0.1W  | 5%  | 47K   | 🔍    |
| R914                                   | ERJ6GEYJ822  | S.M.CARB         | 0.1W  | 5%  | 8K2   | 🔍    |
| R915                                   | ERJ6GEYJ152  | S.M.CARB         | 0.1W  | 5%  | 1K5   | 🔍    |
| R916                                   | ERJ6GEYJ391  | S.M.CARB         | 0.1W  | 5%  | 390   | 🔍    |
| R919                                   | ERQ14AJW390  | FUSIBLE          | 0.25W | 5%  | 39    | 🔍 ⚠️ |
| R920                                   | ERQ14AJW390  | FUSIBLE          | 0.25W | 5%  | 39    | 🔍 ⚠️ |
| R921                                   | ERD25TJ471   | CARBON           | 0.25W | 5%  | 470   | 🔍    |
| R922                                   | ERD25TJ393   | CARBON           | 0.25W | 5%  | 39K   | 🔍    |
| R923                                   | ERD25TJ393   | CARBON           | 0.25W | 5%  | 39K   | 🔍    |
| R924                                   | ERDS1FJ390   | CARBON           | 0.5W  | 5%  | 39    | 🔍 ⚠️ |
| R925                                   | ERJ6GEY0R00  | S.M.CARB         | 0.1W  | 5%  | 0     | 🔍    |
| R926                                   | ERJ6GEY0R00  | S.M.CARB         | 0.1W  | 5%  | 0     | 🔍    |
| R927                                   | ERD25TJ471   | CARBON           | 0.25W | 5%  | 470   | 🔍    |
| R928                                   | ERD25TJ5R6   | CARBON           | 0.25W | 5%  | 5R6   | 🔍    |
| R929                                   | ERDS1FJ471   | CARBON           | 0.5W  | 5%  | 470   | 🔍 ⚠️ |
| R930                                   | ERD25TJ5R6   | CARBON           | 0.25W | 5%  | 5R6   | 🔍    |
| R931                                   | ERDS1FJ390   | CARBON           | 0.5W  | 5%  | 39    | 🔍 ⚠️ |
| R935                                   | ERQ14AJW3R9  | FUSIBLE          | 0.25W | 5%  | 3R9   | 🔍 ⚠️ |
| R936                                   | ERQ1CJP331   | FUSIBLE          | 1W    | 5%  | 330   | 🔍 ⚠️ |
| <b>CAPACITORS</b>                      |              |                  |       |     |       |      |
| C366                                   | ECA1CM100GB  | ELECT            | 16V   |     | 10µF  |      |
| C551                                   | ECKC3D152J   | CERAMIC          | 2KV   |     | 1.5nF | ⚠️   |
| C554                                   | ECWF2H514J   | FILM             | 500V  |     | 1.5nF | ⚠️   |
| C555                                   | ECWH15H103J  | FILM             | 1500V |     | 10nF  |      |
| C556                                   | ECQM4333JC   | FILM             | 400V  |     | 33nF  |      |
| C559                                   | ECWF2H684J   | FILM             | 500V  |     | 33nF  | ⚠️   |
| C811                                   | ECOS2GG181NG | ELECT            | 400V  |     | 180µF | ⚠️   |
| C902                                   | ECA1VM101GB  | ELECT            | 35V   |     | 100µF |      |
| C903                                   | ECUV1H472KBX | S.M. CAP         | 50V   |     | 4.7nF |      |
| C904                                   | ECUV1H472KBX | S.M. CAP         | 50V   |     | 4.7nF |      |
| C906                                   | ECUV1H471KBX | S.M. CAP         | 50V   |     | 470pF |      |
| C908                                   | ECUV1H151JCX | S.M. CAP         | 50V   |     | 150pF |      |
| C909                                   | ECKC2H472J   | CERAMIC          | 500V  |     | 4.7nF | ⚠️   |
| C910                                   | ECKC2H472J   | CERAMIC          | 500V  |     | 4.7nF | ⚠️   |
| C911                                   | ECUV1H151JCX | S.M. CAP         | 50V   |     | 150pF |      |
| C912                                   | ECEA2CU100   | ELECT            | 160V  |     | 10µF  |      |
| C913                                   | ECA1HM101GB  | ELECT            | 50V   |     | 100µF |      |
| C914                                   | ECA1HM101GB  | ELECT            | 50V   |     | 100µF |      |
| C916                                   | ECEA2CGE100  | ELECT            | 160V  |     | 10µF  |      |
| <b>DIFFERENCES FOR MODEL TX-28MD4P</b> |              |                  |       |     |       |      |
| <b>MECHANICAL PARTS</b>                |              |                  |       |     |       |      |
| 8                                      | TKU8E00350   | BACK COVER       |       |     |       | ⚠️   |
| 9                                      | A66ECF50X41  | C.R.T.           |       |     |       | ⚠️   |
| 10                                     | TKY8E190     | CABINET          |       |     |       | ⚠️   |
| 11                                     | VP17005-32   | CRT FIXING SCREW |       |     |       |      |
| 12                                     | TLK8E05140   | DEGAUSS COIL     |       |     |       | ⚠️   |
| 13                                     | TNP8EE009BM  | E P.C.B.         |       |     |       | ⚠️   |
| 14                                     | TQF8E2695    | MODEL LABEL      |       |     |       | ⚠️   |
| 15                                     | TBM173052    | PANASONIC BADGE  |       |     |       |      |
| 16                                     | TBX8E041-1   | POWER BUTTON     |       |     |       |      |
| 17                                     | TSX8E0027    | POWER CORD       |       |     |       | ⚠️   |
| 18                                     | TNP8EY012AF  | Y P.C.B.         |       |     |       | ⚠️   |
| <b>MISCELLANEOUS COMPONENTS</b>        |              |                  |       |     |       |      |
|                                        | TPC8E4685    | OUTER CARTON     |       |     |       |      |
|                                        | TPD8E639     | TOP CUSHION      |       |     |       |      |
|                                        | TPD8E640     | BOTTOM CUSHION   |       |     |       |      |
|                                        | ZTUZAE550A   | ANODE LEAD       |       |     |       | ⚠️   |
| <b>I.C.s</b>                           |              |                  |       |     |       |      |
| IC850                                  | SE140N       | ERROR AMPLIFER   |       |     |       |      |

| Cct Ref      | Parts Number | Description |       |     |       |  |
|--------------|--------------|-------------|-------|-----|-------|--|
| IC1103       | XGL2-01FP    | EAROM *     |       |     |       |  |
| DIODES       |              |             |       |     |       |  |
| D901         | MA165TA5     | DIODE       |       |     |       |  |
| D902         | MA165TA5     | DIODE       |       |     |       |  |
| D904         | MA165TA5     | DIODE       |       |     |       |  |
| D905         | MA165TA5     | DIODE       |       |     |       |  |
| D906         | RLS72TE-11   | DIODE       |       |     |       |  |
| TRANSISTORS  |              |             |       |     |       |  |
| Q905         | BC847B       | TRANSISTOR  |       |     |       |  |
| Q906         | BC847B       | TRANSISTOR  |       |     |       |  |
| Q907         | BC857B       | TRANSISTOR  |       |     |       |  |
| Q908         | 2SA1535ARLB  | TRANSISTOR  |       |     |       |  |
| Q909         | 2SC3944ARLB  | TRANSISTOR  |       |     |       |  |
| TRANSFORMERS |              |             |       |     |       |  |
| T801         | ETS39AG1J7AD | TRANSFORMER |       |     |       |  |
| COILS        |              |             |       |     |       |  |
| L552         | ELH5L4105    | COIL        |       |     |       |  |
| L554         | ELC18B102L   | COIL        |       |     |       |  |
| L901         | EXCELSA24T   | COIL        |       |     |       |  |
| L902         | EXCELSA24T   | COIL        |       |     |       |  |
| RESISTORS    |              |             |       |     |       |  |
| JA1          | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0     |  |
| JA2          | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0     |  |
| JA3          | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0     |  |
| R357         | ERDS1TJ114   | CARBON      | 0.5W  | 5%  | 110K  |  |
| R358         | ERDS1TJ114   | CARBON      | 0.5W  | 5%  | 110K  |  |
| R359         | ERDS1TJ114   | CARBON      | 0.5W  | 5%  | 110K  |  |
| R363         | ERD25TJ103   | CARBON      | 0.25W | 5%  | 10K   |  |
| R364         | ERD25TJ103   | CARBON      | 0.25W | 5%  | 10K   |  |
| R365         | ERD25TJ103   | CARBON      | 0.25W | 5%  | 10K   |  |
| R369         | ERD25TJ472   | CARBON      | 0.25W | 5%  | 4K7   |  |
| R370         | ERJ6GEYJ102  | S.M.CARB    | 0.1W  | 5%  | 1K    |  |
| R377         | ERQ1ABJP5R1  | METAL       | 0.5W  | 5%  | 5R1   |  |
| R461         | ERW2PK1R2    | WOUND       | 2W    | 10% | 1R2   |  |
| R702         | ERQ12HJ8R2   | FUSIBLE     | 0.5W  | 5%  | 8R2   |  |
| R913         | ERJ6GEYJ473  | S.M.CARB    | 0.1W  | 5%  | 47K   |  |
| R914         | ERJ6GEYJ822  | S.M.CARB    | 0.1W  | 5%  | 8K2   |  |
| R915         | ERJ6GEYJ152  | S.M.CARB    | 0.1W  | 5%  | 1K5   |  |
| R916         | ERJ6GEYJ391  | S.M.CARB    | 0.1W  | 5%  | 390   |  |
| R919         | ERQ14AJW390  | FUSIBLE     | 0.25W | 5%  | 39    |  |
| R920         | ERQ14AJW390  | FUSIBLE     | 0.25W | 5%  | 39    |  |
| R921         | ERD25TJ471   | CARBON      | 0.25W | 5%  | 470   |  |
| R922         | ERD25TJ393   | CARBON      | 0.25W | 5%  | 39K   |  |
| R923         | ERD25TJ393   | CARBON      | 0.25W | 5%  | 39K   |  |
| R924         | ERDS1FJ390   | CARBON      | 0.5W  | 5%  | 39    |  |
| R925         | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0     |  |
| R926         | ERJ6GEY0R00  | S.M.CARB    | 0.1W  | 5%  | 0     |  |
| R927         | ERD25TJ471   | CARBON      | 0.25W | 5%  | 470   |  |
| R928         | ERD25TJ5R6   | CARBON      | 0.25W | 5%  | 5R6   |  |
| R929         | ERDS1FJ471   | CARBON      | 0.5W  | 5%  | 470   |  |
| R930         | ERD25TJ5R6   | CARBON      | 0.25W | 5%  | 5R6   |  |
| R931         | ERDS1FJ390   | CARBON      | 0.5W  | 5%  | 39    |  |
| R935         | ERQ14AJW3R9  | FUSIBLE     | 0.25W | 5%  | 3R9   |  |
| R936         | ERQ1CJP331   | FUSIBLE     | 1W    | 5%  | 330   |  |
| CAPACITORS   |              |             |       |     |       |  |
| C366         | ECA1CM100GB  | ELECT       | 16V   |     | 10µF  |  |
| C551         | ECKC3D122J   | CERAMIC     | 2KV   |     | 1.2nF |  |
| C554         | ECWF2H514J   | FILM        | 500V  |     | 1.2nF |  |
| C555         | ECWH15H103J  | FILM        | 1500V |     | 10nF  |  |
| C556         | ECQM4333JC   | FILM        | 400V  |     | 33nF  |  |
| C559         | ECWF2H684J   | FILM        | 500V  |     | 33nF  |  |
| C811         | ECOS2GG181NG | ELECT       | 400V  |     | 180µF |  |
| C902         | ECA1VM101GB  | ELECT       | 35V   |     | 100µF |  |
| C903         | ECUV1H472KBX | S.M. CAP    | 50V   |     | 4.7nF |  |



# SCHEMATIC DIAGRAMS FOR MODELS

## TX-28MD4P / TX-25MD4P / TX-21MD4P

### (EURO-4 CHASSIS)

#### IMPORTANT SAFETY NOTICE

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturers' specified parts.

#### NOTE

1. RESISTOR  
All resistors are carbon 1/4W resistor, unless marked otherwise.  
Unit of resistance is OHM ( $\Omega$ ) (k=1,000, M=1,000,000)

2. CAPACITORS  
All capacitors are ceramic 50V unless marked otherwise.  
Unit of capacitance is  $\mu$ F unless otherwise stated.

3. COIL  
Unit of inductance is  $\mu$ H, unless otherwise stated.

4. TEST POINT  
 Test Point Position

5. EARTH SYMBOL  
 Chassis Earth (Cold)  
 Line Earth (Hot)

6. VOLTAGE MEASUREMENT  
Voltage is measured by a DC voltmeter.  
Measurement conditions are as follows:  
Power source AC 220V-240V, 50Hz  
Receiving Signal Colour Bar signal (RF)  
All customer controls Maximum position

7.  
 Indicates the Video signal path  
 Indicates the Audio signal path

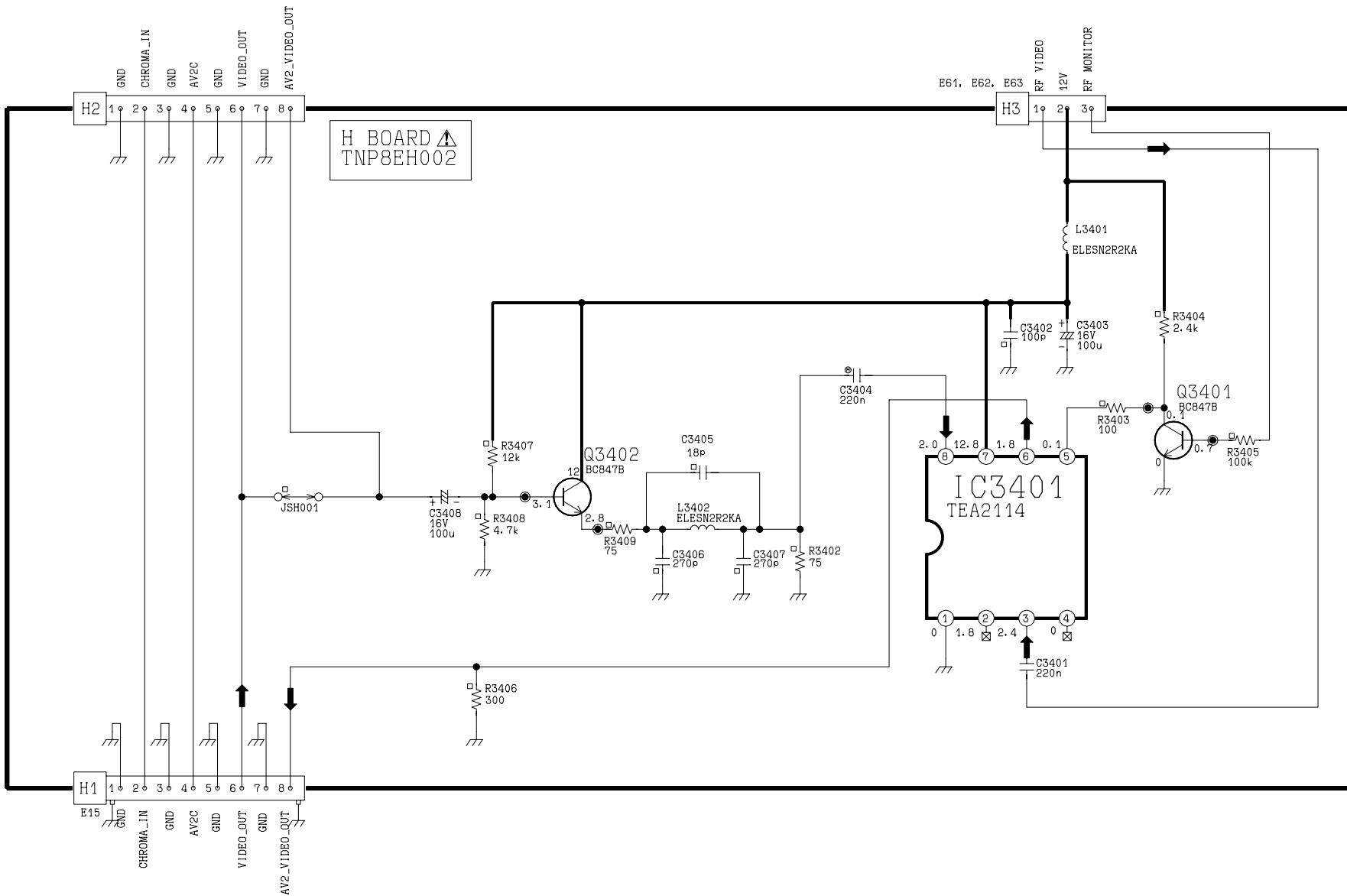
These schematic diagrams are the latest at time of printing and are subject to change without notice.

#### REMARKS

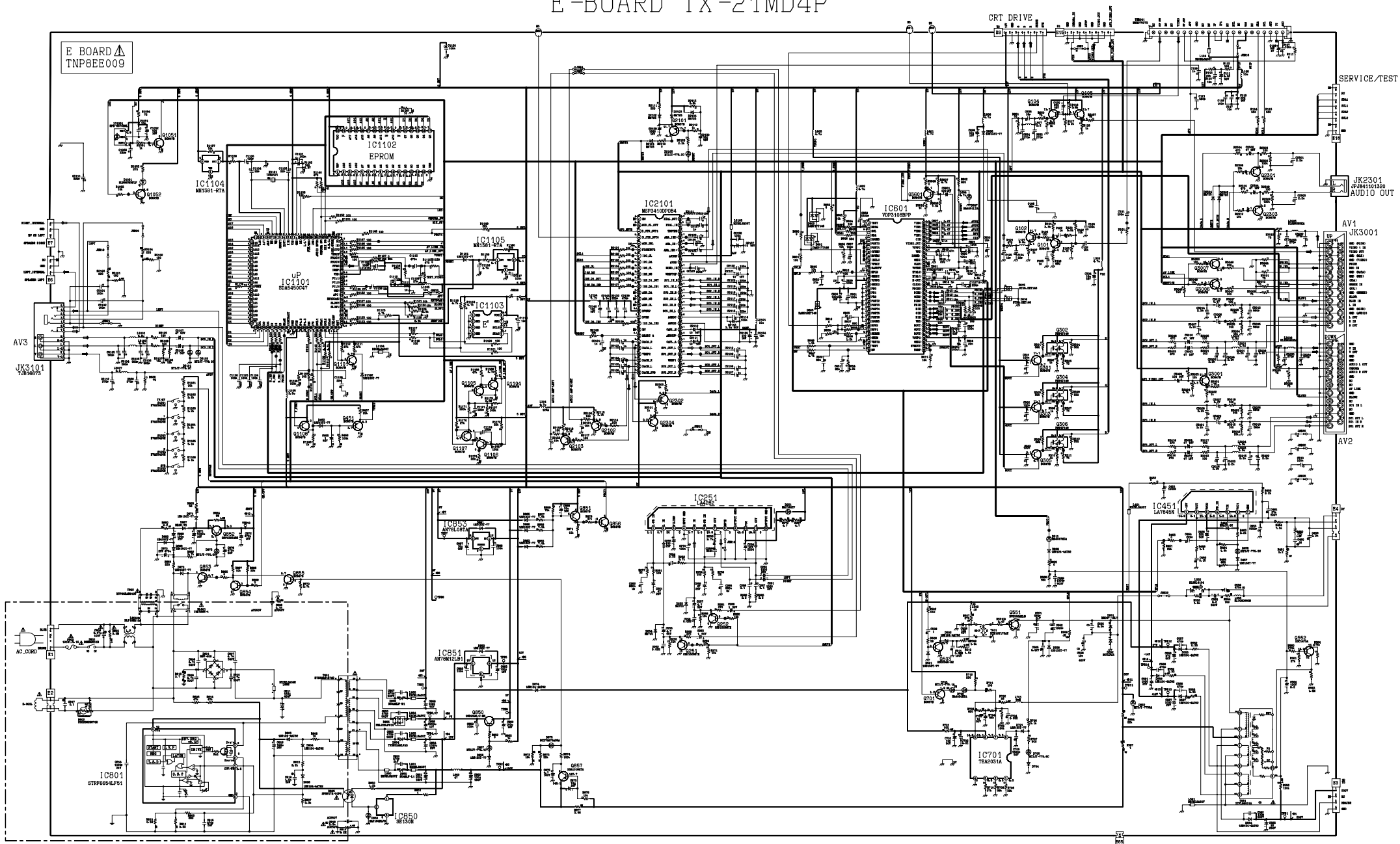
- a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
- b. Do not short circuit the hot and cold circuits as electrical components may be damaged.
- c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.
- d. Make sure to disconnect the power plug before removing the chassis.

#### NOTE

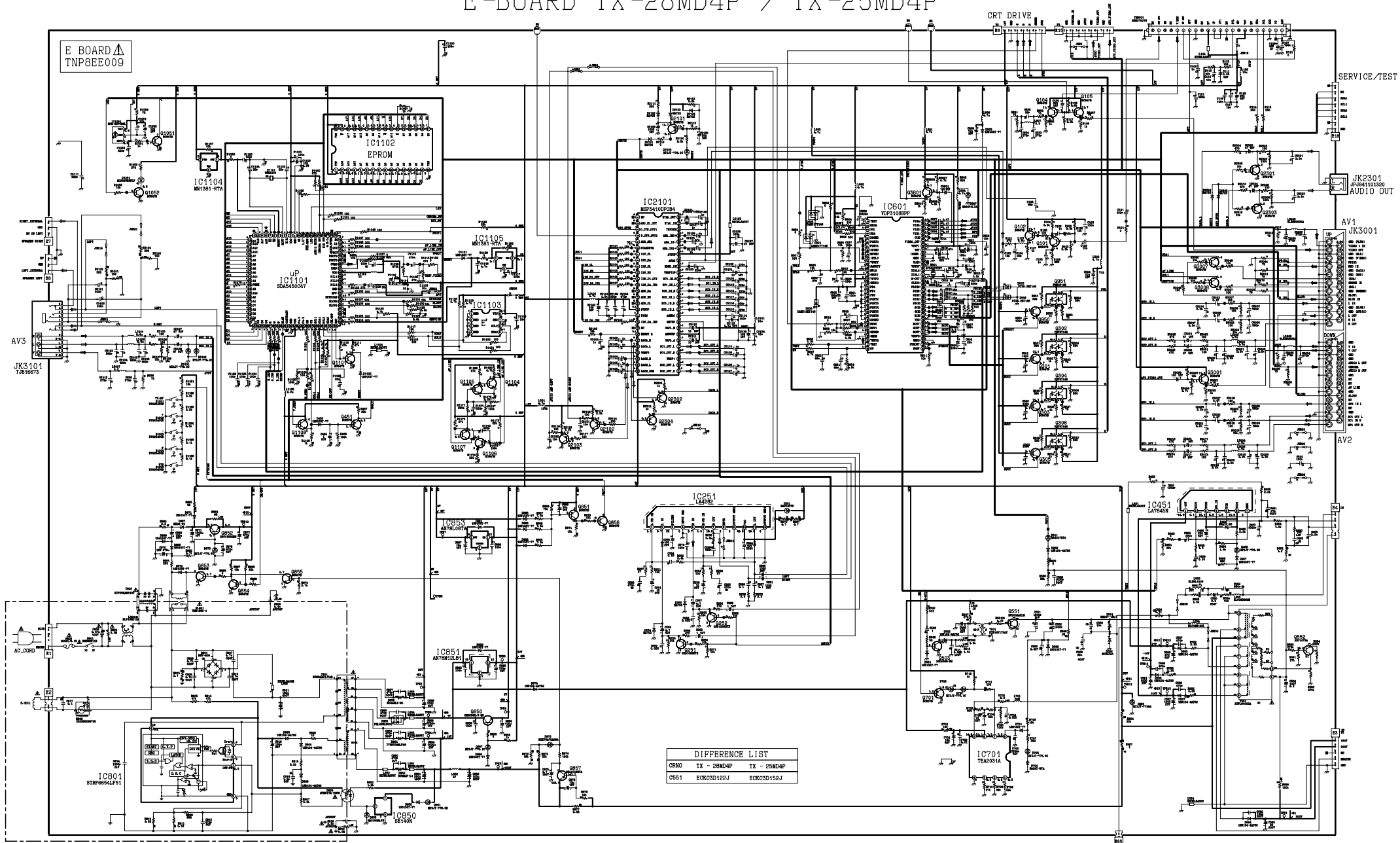
1. The Power Supply Circuit contains a circuit area, which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits, except the Power Circuit, are COLD.



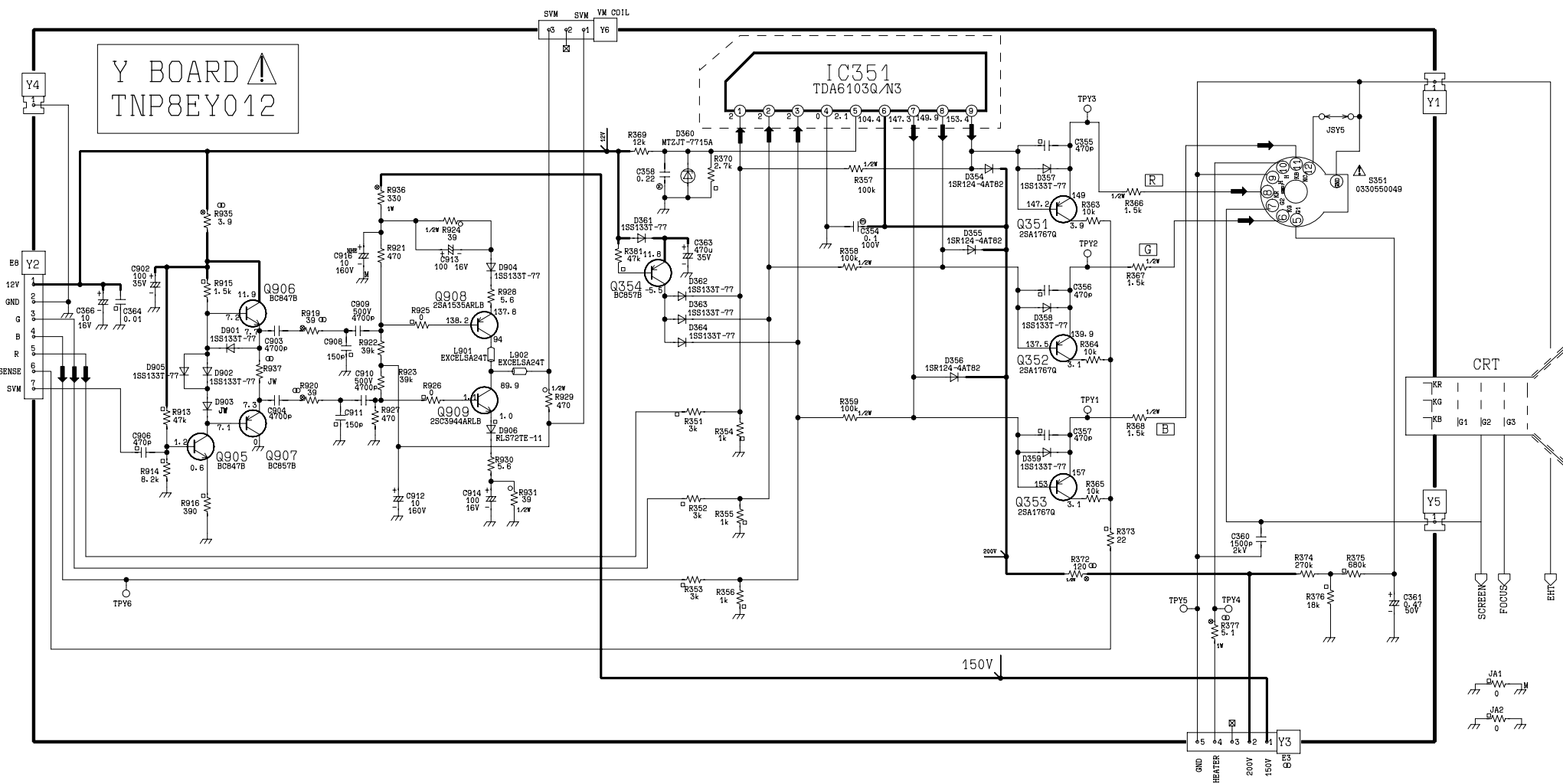
# E-BOARD TX-21MD4P



## E-BOARD TX-28MD4P / TX-25MD4P

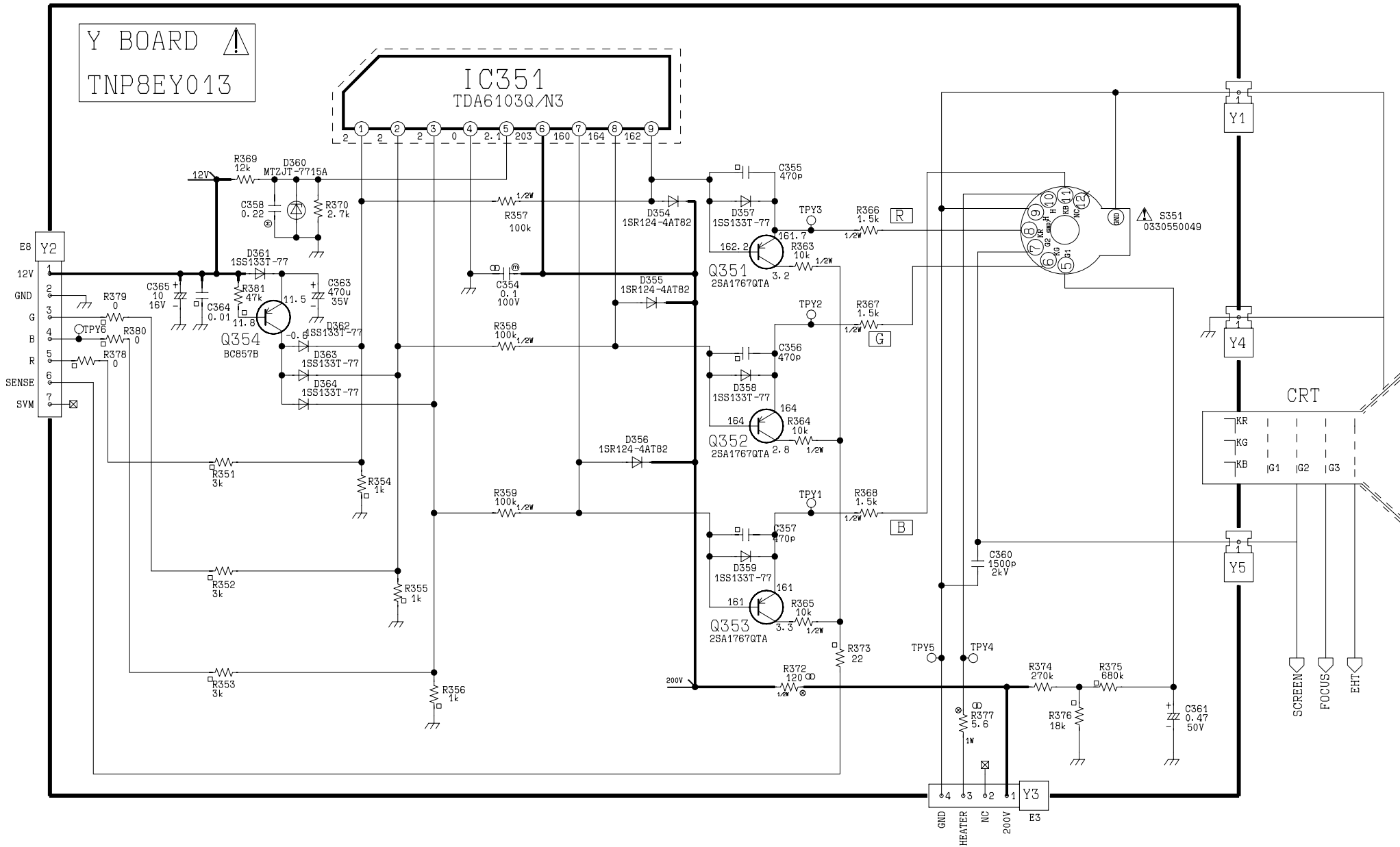


## Y-BOARD TX-28MD4P / TX-25MD4P



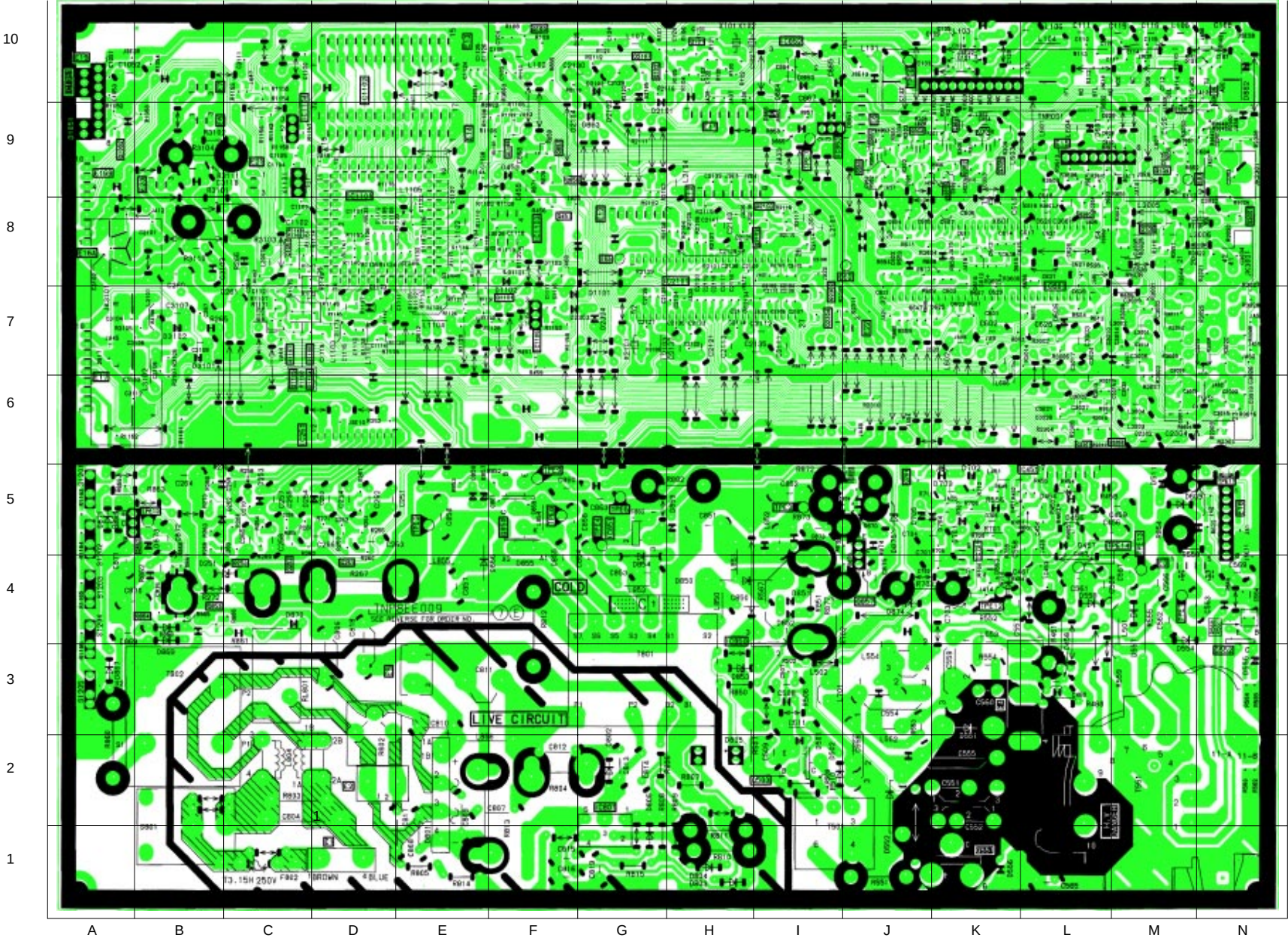
# Y-BOARD TX-21MD4P

Y BOARD   
TNP8EY013



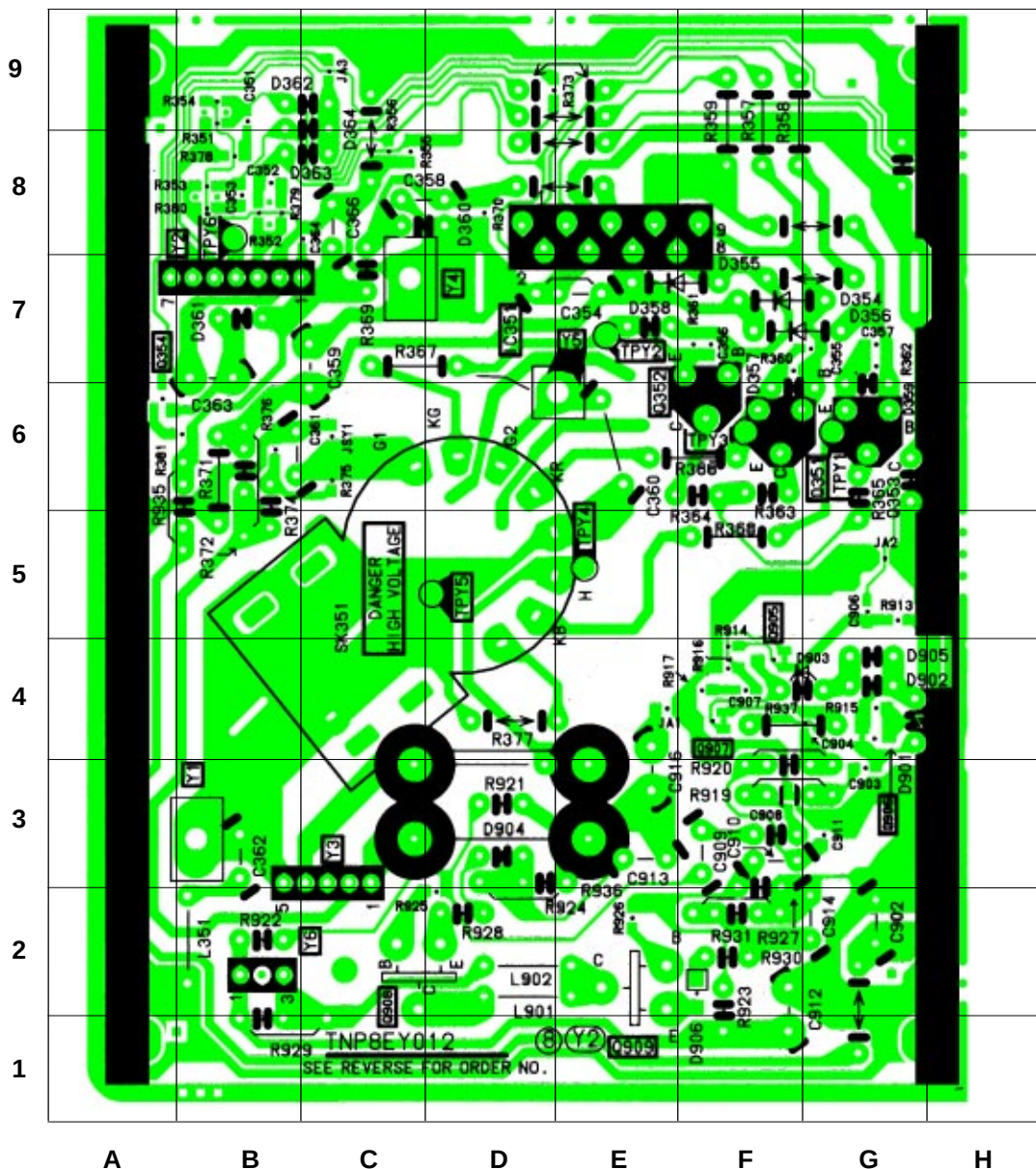
E - BOARD TNP8EE009

| TRAN'S    | DIODES    | D558 L4    |
|-----------|-----------|------------|
| Q3601 L8  | D3103 B7  | D557 M4    |
| Q3007 M9  | D3101 B7  | D556 K1    |
| Q3001 N8  | D3102 B7  | D555 N3    |
| Q3006 N10 | D2161 G9  | D554 M4    |
| Q2304 I7  | D2105 G10 | D553 K4    |
| Q2303 M6  | D2104 F9  | D552 J2    |
| Q2301 I7  | D2103 G10 | D551 K3    |
| Q2103 I8  | D2102 G9  | D511 M5    |
| Q2102 H8  | D1103 F8  | D502 I2    |
| Q2101 G10 | D1102 F7  | D501 I2    |
| Q1108 F9  | D1101 G7  | D457 L5    |
| Q1107 C7  | D1051 A9  | D456 L5    |
| Q1106 C7  | D875 J5   | D454 L5    |
| Q1105 C7  | D874 J4   | D453 F9    |
| Q1104 C7  | D873 B5   | D254 C5    |
| Q1101 F7  | D871 A5   | D253 C5    |
| Q1052 A9  | D870 B7   | D252 B5    |
| Q1051 C8  | D869 B4   | D251 B4    |
| Q951 J9   | D868 B4   | IC'S       |
| Q950 J9   | D867 A3   | IC2101 H8  |
| Q857 J4   | D866 I9   | IC1105 F7  |
| Q856 F9   | D865 I9   | IC1104 C9  |
| Q855 J5   | D864 I10  | IC1103 F8  |
| Q854 B4   | D863 G9   | IC1102 D10 |
| Q853 B4   | D862 N10  | IC1101 D8  |
| Q852 B5   | D861 J9   | IC1051 A10 |
| Q850 F5   | D860 I10  | IC852 I10  |
| Q701 J5   | D859 H5   | IC851 G5   |
| Q552 N3   | D858 E5   | IC850 H4   |
| Q551 K1   | D857 E5   | IC801 G2   |
| Q503 I2   | D855 F4   | IC701 K5   |
| Q451 F8   | D854 G4   | IC601 L7   |
| Q394 K9   | D853 H3   | IC451 L5   |
| Q305 K9   | D852 I4   | IC251 D6   |
| Q303 K9   | D851 I4   | TP'S       |
| Q302 J9   | D850 H4   | TPE14 M5   |
| Q301 K9   | D806 G2   | TPE13 M4   |
| Q253 C4   | D805 H2   | TPE12 K4   |
| Q252 C4   | D804 H1   | TPE11 N5   |
| Q252 C4   | D803 H1   | TPE10 B5   |
| Q251 D4   | D802 G2   | TPE9 E5    |
| Q105 M8   | D801 E1   | TPE8 F5    |
| Q104 M9   | D705 J5   | TPE7 I9    |
| Q103 F10  | D704 K5   | TPE6 J10   |
| Q102 G10  | D703 K5   | TPE5 G5    |
| Q101 H10  | D702 K5   | TPE4 G5    |
|           | D701 K5   | TPE3 E5    |
|           | D609 M5   | TPE2 I5    |
|           | D607 L9   | TPE1 M4    |



# Y - BOARD TNP8EY012

| TRANSISTORS |    |
|-------------|----|
| Q909        | E1 |
| Q908        | C2 |
| Q907        | F4 |
| Q906        | G3 |
| Q905        | F5 |
| Q354        | A7 |
| Q353        | G6 |
| Q352        | F6 |
| Q351        | F6 |
| DIODES      |    |
| D906        | F1 |
| D905        | G4 |
| D904        | D3 |
| D902        | G4 |
| D901        | G3 |
| D364        | C9 |
| D363        | C8 |
| D362        | B9 |
| D361        | B7 |
| D360        | D8 |
| D359        | G6 |
| D358        | E7 |
| D357        | F7 |
| D356        | G7 |
| D355        | F7 |
| D354        | G7 |
| TEST POINTS |    |
| TPY6        | B8 |
| TPY5        | D5 |
| TPY4        | E5 |
| TPY3        | F6 |
| TPY2        | E7 |
| TPY1        | G6 |
| IC'S        |    |
| IC351       | E8 |



# Y - BOARD TNP8EY013

## DIODES

|      |    |
|------|----|
| D354 | G5 |
| D355 | F6 |
| D356 | G5 |
| D357 | G5 |
| D358 | F5 |
| D359 | G5 |
| D360 | C6 |
| D361 | B6 |
| D362 | D7 |
| D363 | D7 |
| D364 | D7 |

## TEST POINTS

|      |    |
|------|----|
| TPY1 | E4 |
| TPY2 | F5 |
| TPY3 | F4 |
| TPY4 | E3 |
| TPY5 | D3 |
| TPY6 | B6 |

## TRANSISTORS

|      |    |
|------|----|
| Q351 | G4 |
| Q352 | F4 |
| Q353 | G4 |
| Q354 | C7 |

## I.C.'S

|       |    |
|-------|----|
| IC351 | E6 |
|-------|----|

